TMIO®

Connect Io™
INTELLIGENT OVEN™

Models: PS302SS00 / PS302SS01 /
PS301SS00 / PS301SS01

SERVICE MANUAL

PS302SS00

PS302SS01

PS301SS00

PS301SS01

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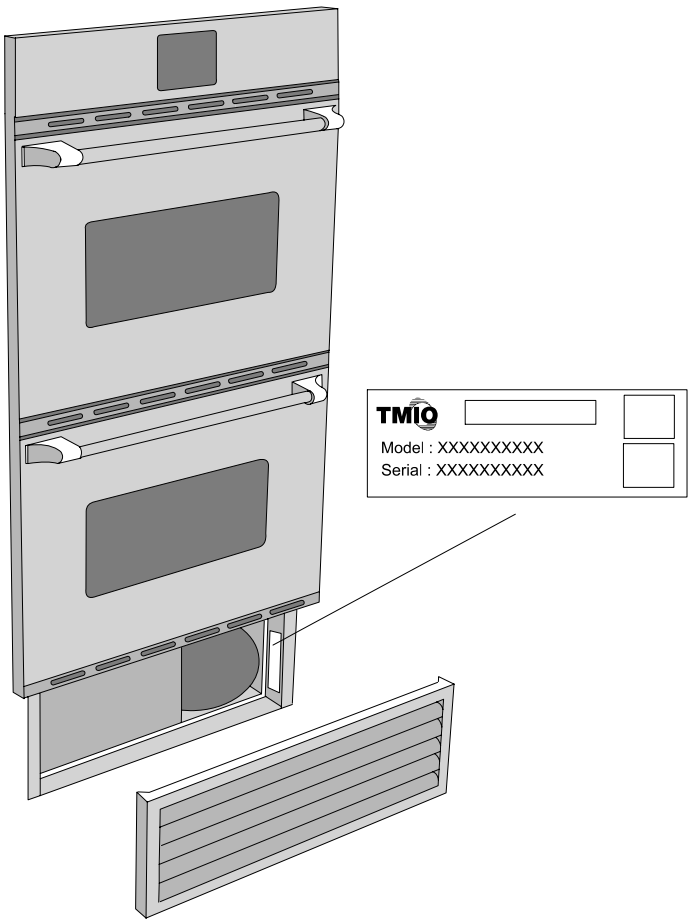
THE CONNECT IO SERVICE MANUAL CONTAINS INFORMATION THAT IS NECESSARY FOR SERVICING THE TMIO INTELLIGENT OVEN MODELS:

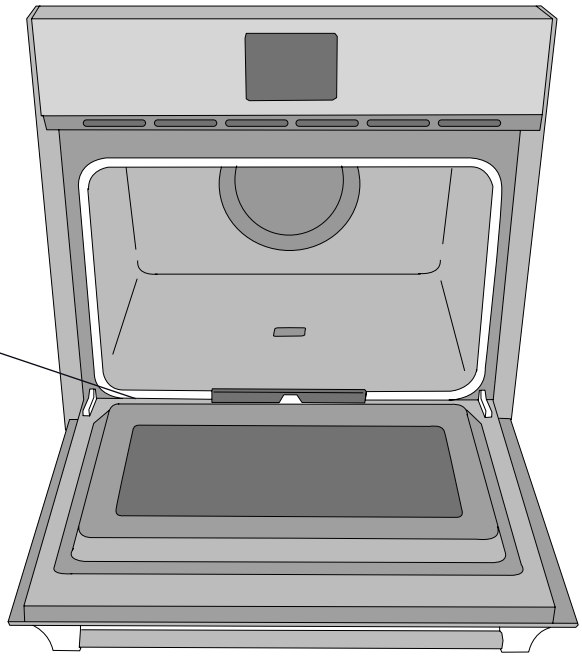
PS302SS00 / PS302SS01
PS301SS00 / PS301SS01

THIS MANUAL IS DESIGNED TO BE USED BY QUALIFIED SERVICE PERSONNEL ONLY. DUE TO THE COMPLEXITY AND THE RISK OF HIGH VOLTAGE ELECTRICAL SHOCK, IT IS NOT RECOMMENDED CONSUMERS PREFORM SERVICE ON THIS PRODUCT.

Previous data plate location



Current data plate location



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"Connect Io" REFRIGERATOR-OVEN WARRANTY

FULL TWO-YEAR WARRANTY

For two years from the date of purchase, when this appliance is operated and maintained in accordance with the instructions furnished with this product, TMIO, LLC will pay for replacement parts and repair labor to correct defects in materials or workmanship. Service must be provided by a TMIO, LLC designated service company.

FIVE-YEAR FULL WARRANTY ON SEALED REFRIGERATION PARTS AS LISTED

For five years from the date of purchase, when this product is operated and maintained in accordance with the instructions furnished with this product, TMIO, LLC will pay for replacement parts and repair costs to correct defects in materials or workmanship in the sealed refrigeration system. The sealed refrigeration system consists of the compressor, condenser, evaporator, dryer and all connecting tubing.

THIRD THROUGH FIFTH YEAR LIMITED WARRANTY

From the third through the fifth year from the date of original installation, TMIO, LLC will repair or replace the following parts that prove to be defective in materials or workmanship. Labor to remove and replace defective parts is not covered. TMIO, LLC recommends that you use TMIO, LLC authorized repair persons to perform such services. The following parts are covered: electric heating elements, blower motors, and electronic oven control boards (EOC's).

LIMITATIONS

TMIO, LLC will not pay for:

1. Service calls to correct the installation of your appliance, to instruct you how to use your appliance, to replace house fuses or correct house wiring, or to replace owner-accessible light bulbs.
2. Repairs when your appliance is used in other than normal, single-family household use.
3. Pickup and delivery. Your appliance is designed to be repaired in the home.
4. Damage resulting from accident, alteration, misuse, abuse, fire, flood, improper installation, acts of God or use of products not approved by TMIO, LLC.
5. Repairs to parts or systems resulting from unauthorized modifications made to the appliance or the software operating the appliance.
6. Repairs to parts or systems to correct any defect caused by negligence, accident or improper use, maintenance, installation, service or repair.
7. Replacement parts or repair labor costs for units operated outside the United States and Canada.
8. Travel or transportation expenses for customers who reside in remote areas.
9. Any labor costs during the limited warranty period.
10. Stainless Steel doors, panels, and frame repairs beyond 30 days for cosmetic defects

.

THE REMEDIES DESCRIBED ABOVE FOR EACH WARRANTY ARE THE ONLY ONES WHICH TMIO, LLC WILL PROVIDE, EITHER UNDER THIS WARRANTY OR UNDER ANY WARRANTY ARISING BY OPERATION OF LAW. TMIO, LLC WILL NOT BE RESPONSIBLE OR LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE BREACH OF THIS WARRANTY OR ANY OTHER WARRANTY, WHETHER EXPRESS, IMPLIED OR STATUTORY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion or limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

For service questions visit the web at www.tmio.com or call 1-800-881-TMIO (8646).

Section 1
Component Locations

Fig. 1

Top View

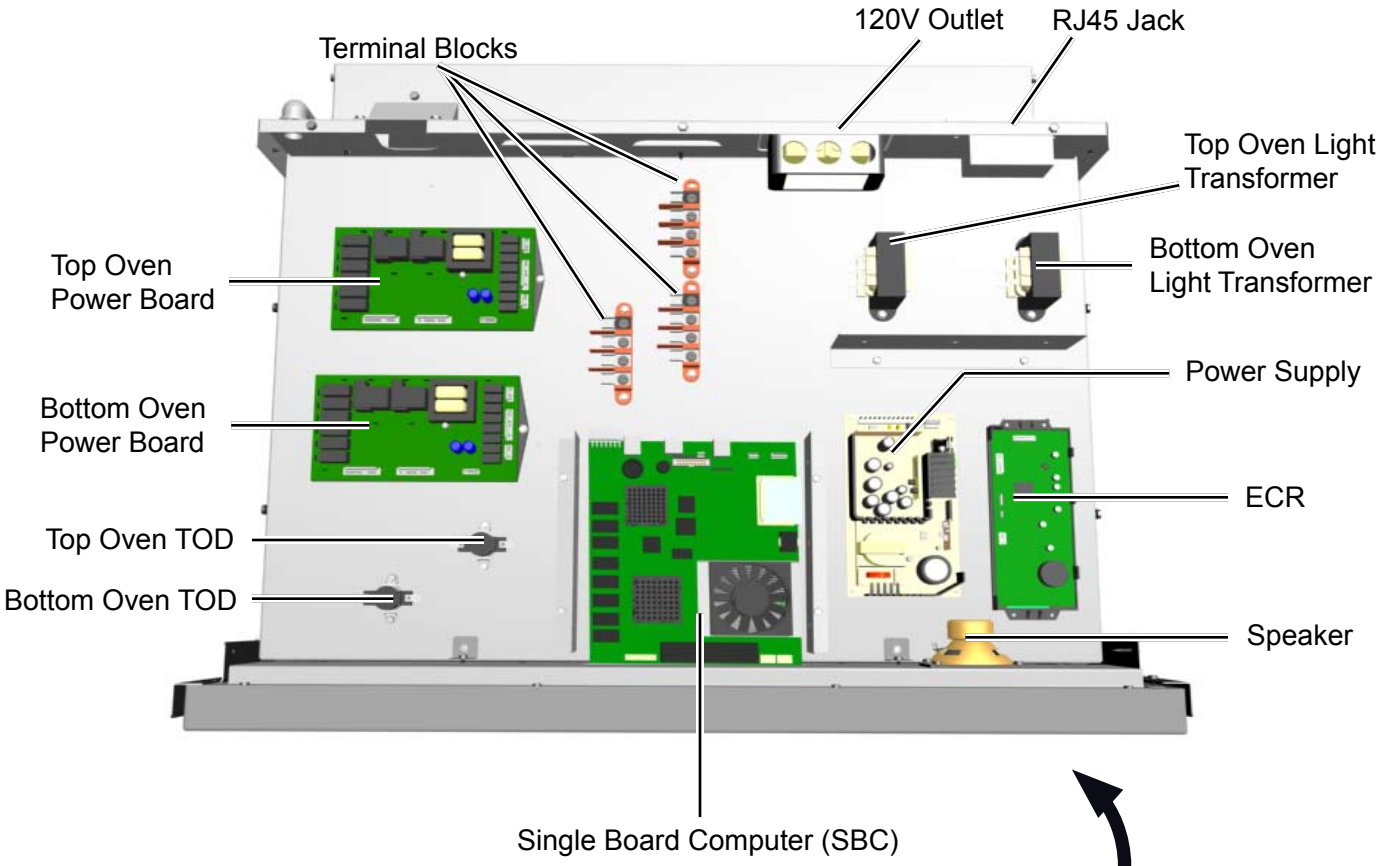
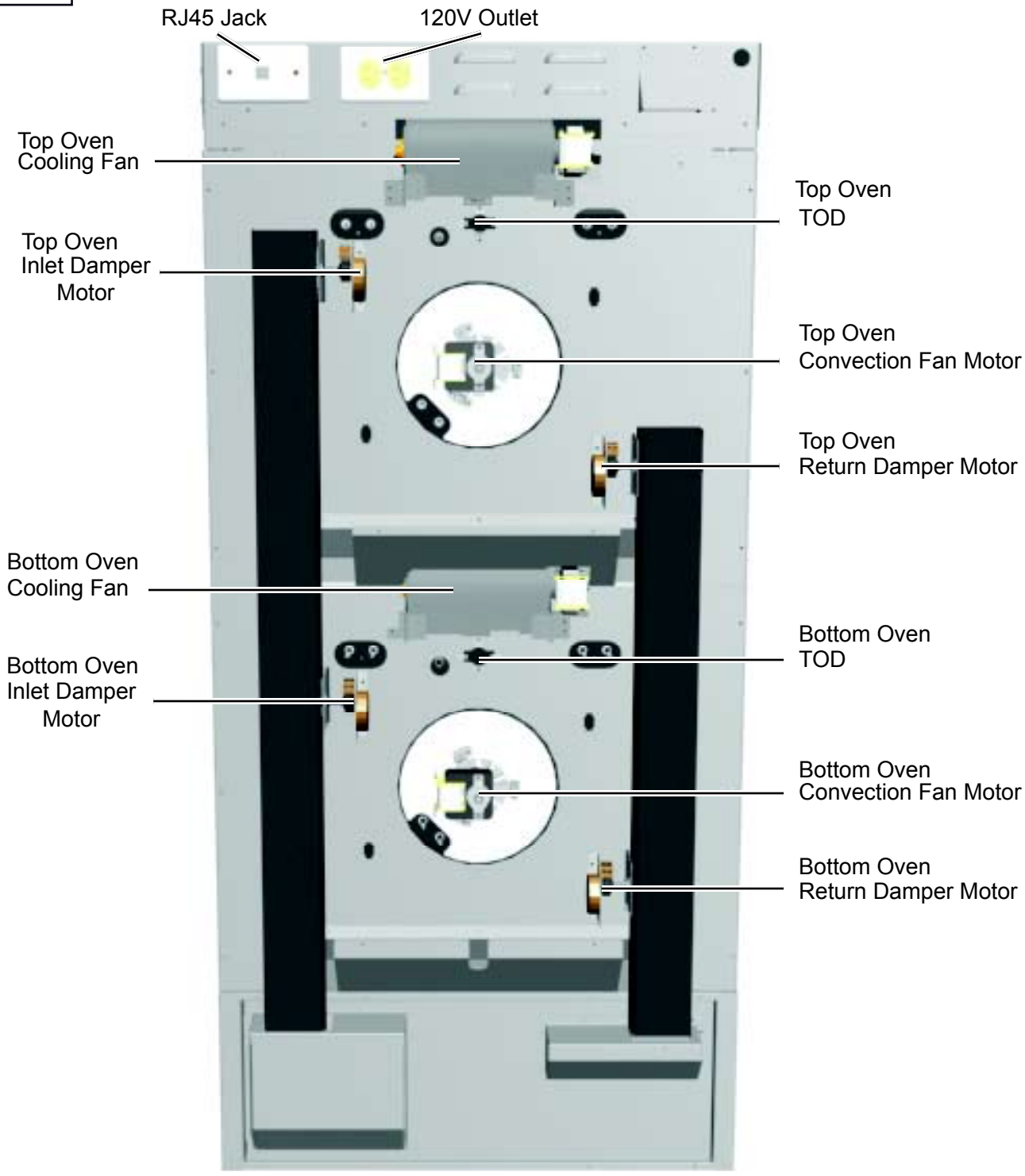


Fig. 2

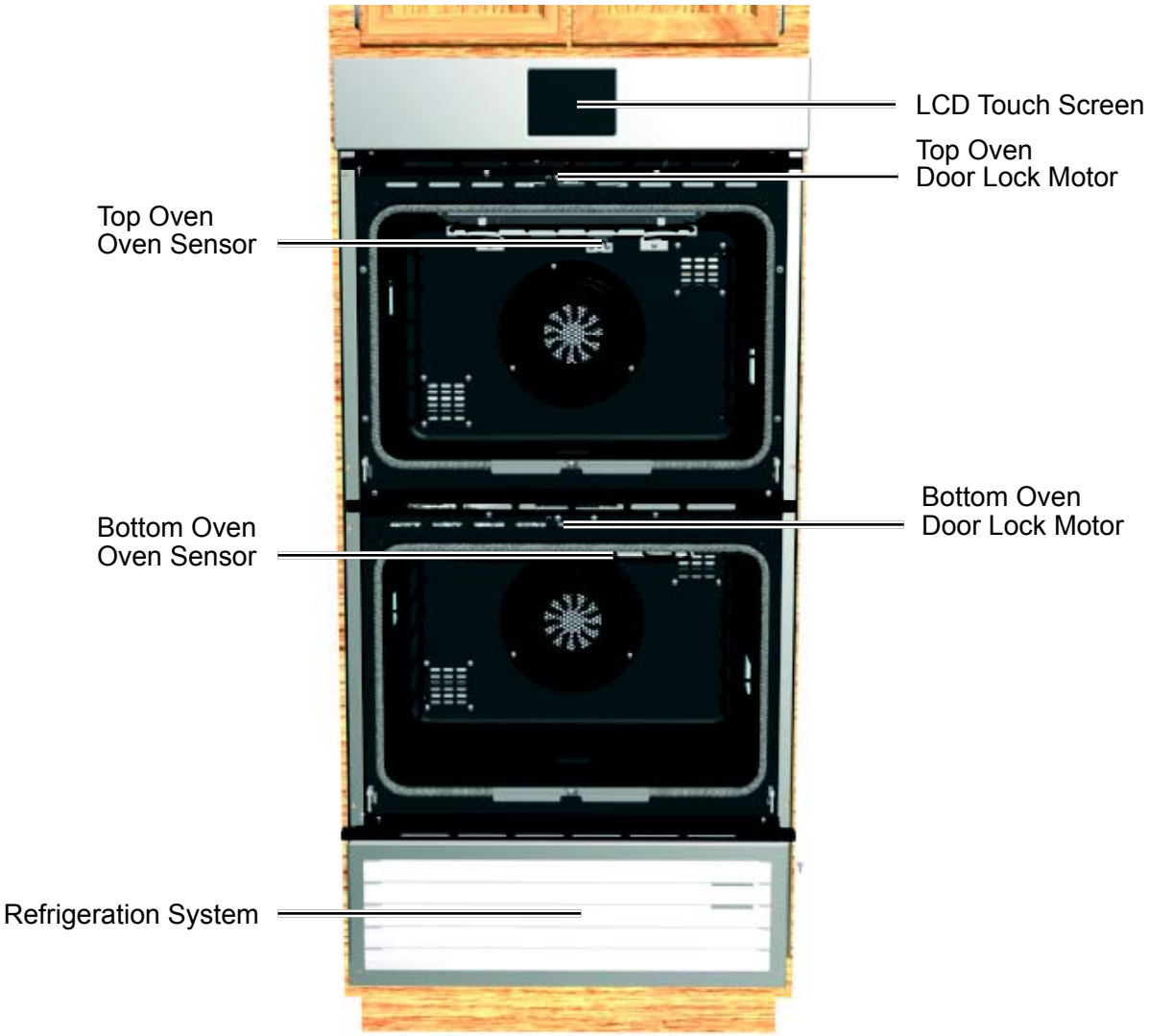
Fig. 3

Rear View


RJ45 Jack
120V Outlet
Top Oven Cooling Fan
Top Oven TOD
Top Oven Inlet Damper Motor
Top Oven Convection Fan Motor
Top Oven Return Damper Motor
Bottom Oven Cooling Fan
Bottom Oven TOD
Bottom Oven Inlet Damper Motor
Bottom Oven Convection Fan Motor
Bottom Oven Return Damper Motor

Front View

Fig. 4



Section 2
Trim, Covers, and Door Removal

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Side Trim

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal partscould have sharp edges and corners.

1. Remove (8) screws from side trim. (4) from each side, see (Fig. 1).
2. Pull unit forward to reveal side trim screws on each side.
3. Remove (2) screws from back of control panel as shown in (Fig. 2).

Fig. 1

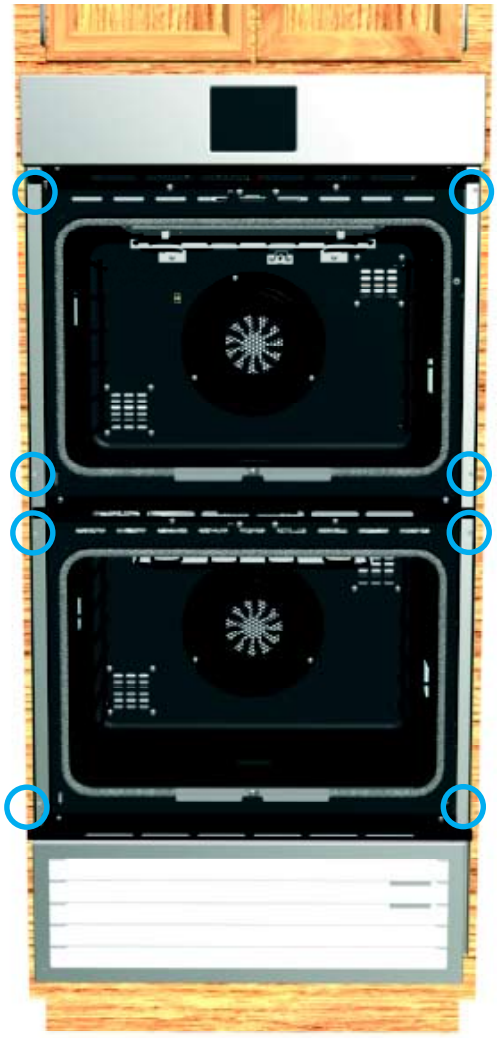


Fig. 2

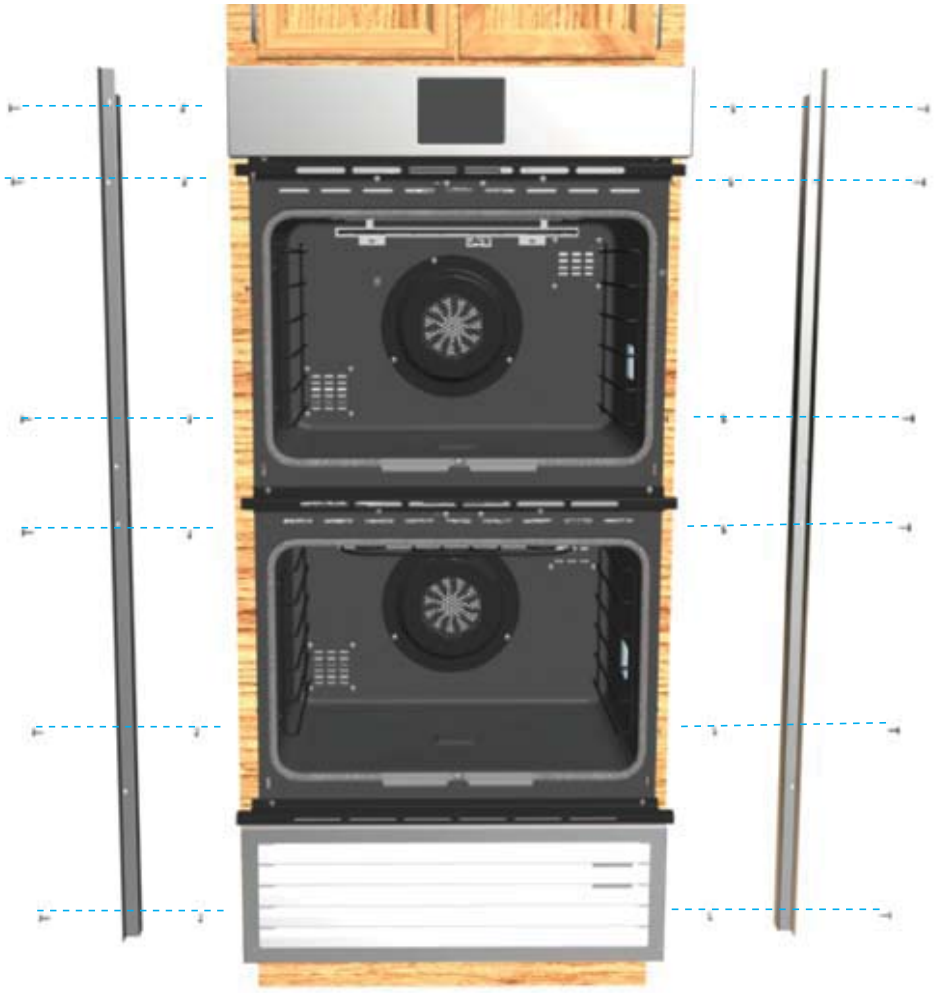
Removing Side Trim

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Be careful when handling sheet metal parts could have sharp edges and corners.

1. Starting from the bottom and moving upward remove the (6) screws and spacers from each side trim, see Fig. 3). **<u>NOTE:</u> There are two different size spacers on side trim. The top and bottom side trim spacers are thinner.** Use free hand to hold trim to prevent from falling.
2. Remove trim from unit and set aside.

Fig. 3



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Electrical Enclosure Cover

WARNING : Turn off the electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Ensure electrical power to oven has been shut off.
2. Remove unit from enclosure, see (Removing and Installing Unit in Cabinet).
3. Remove (13) screws from top electrical enclosure cover as shown in (Fig. 4, Fig. 5).
4. Carefully lift cover and remove from unit (Fig. 6).

Fig. 4

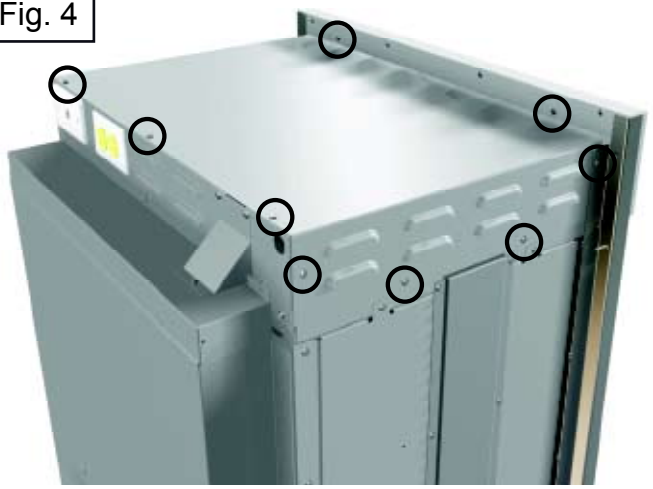
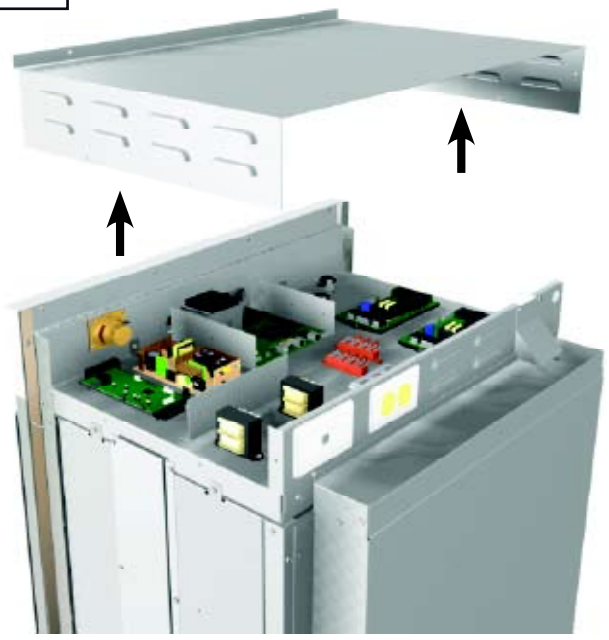


Fig. 5

Fig. 6



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the Rear Covers

WARNING : Turn off the electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Ensure electrical power to oven is off.
2. Remove (17) screws from (4) rear covers as shown in (Fig. 7).
3. Carefully remove all rear covers as one-piece and set aside (Fig. 8).

Fig. 7

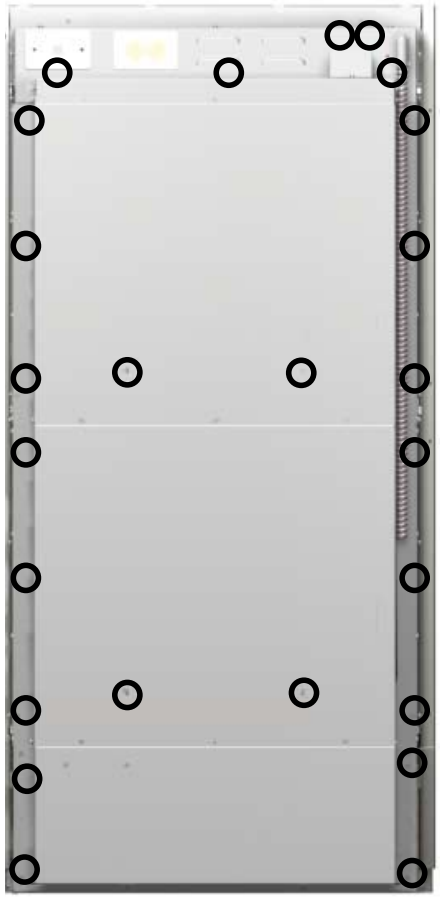


Fig. 8

Removing Oven Doors

1. Open the door fully.
2. Fully rotate the top of both latches to the unlocked position until the latches stop (Fig. 9 & 10).
3. Squarely facing the front of the oven, firmly grasp each side of the oven door near the handle and begin closing the door to nearly upright. When door stops closing, lift the door up slightly and pull out, swinging the bottom of the door toward you (Fig. 11).
4. Place door on a protective surface to prevent damages

Fig. 9

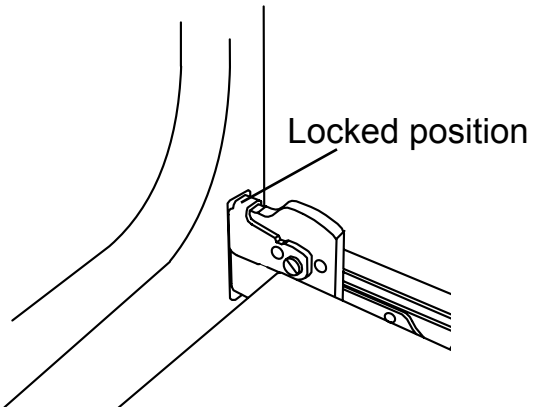


Fig. 10

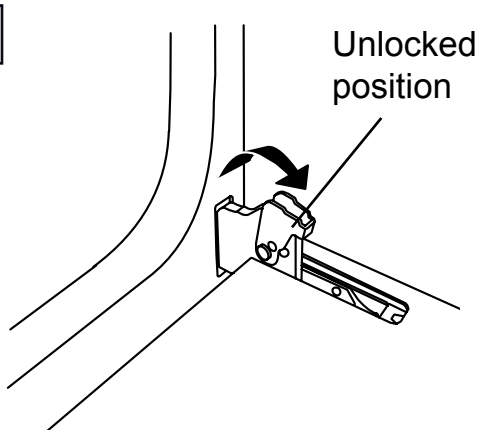
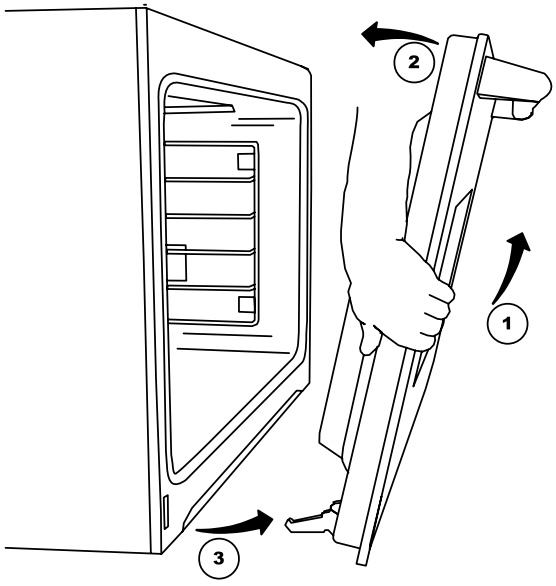
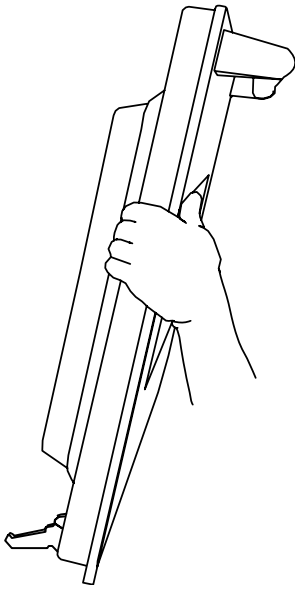


Fig. 11



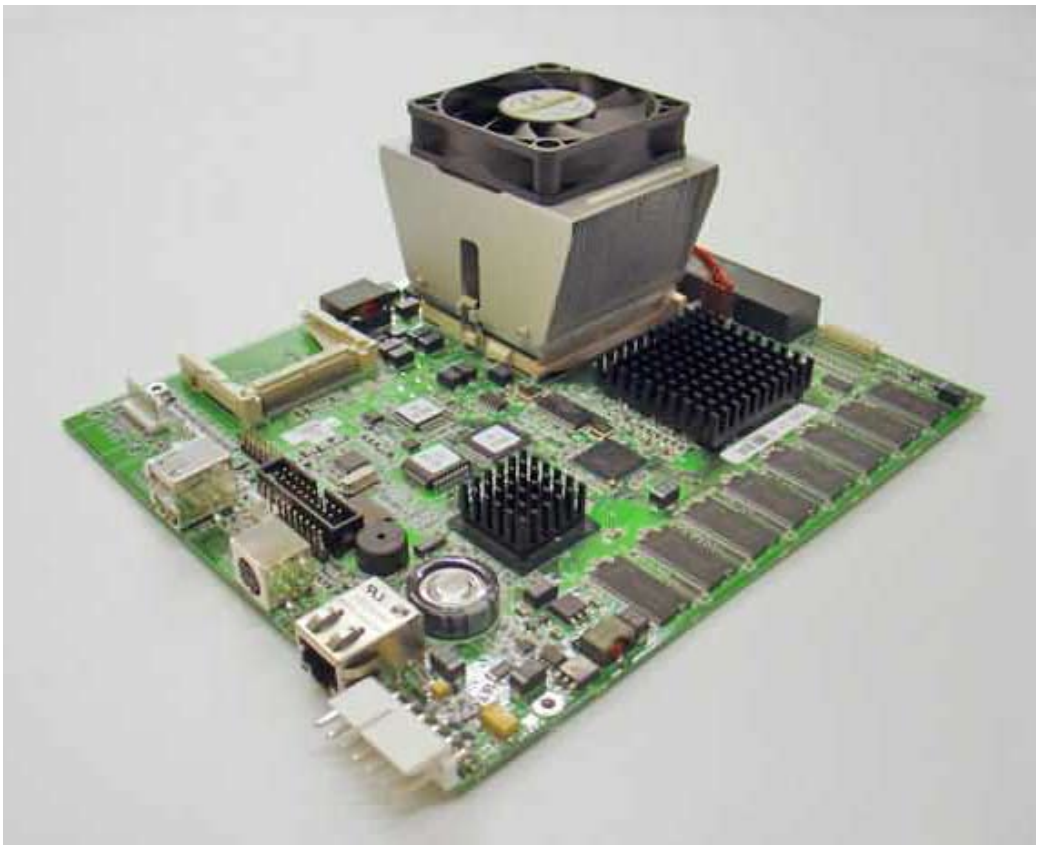
Hand grip position for lower door



Hand grip position for upper door

Section 3
Electronic Control Removal

Removing the Single Board Computer



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the Single Board Computer

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical compnents

1. Ensure electrical power to oven is off.
2. Disconnect all wire connections from SBC. **(Always pull from metal terminal not wires. Pulling on wires can cause damage to wire or terminal).**
3. To release SBC, use pliers to squeeze the top of (4) locking tabs see (Fig. 2).
4. Carefully lift SBC to release and remove from oven, see (Fig. 1).

Fig. 1

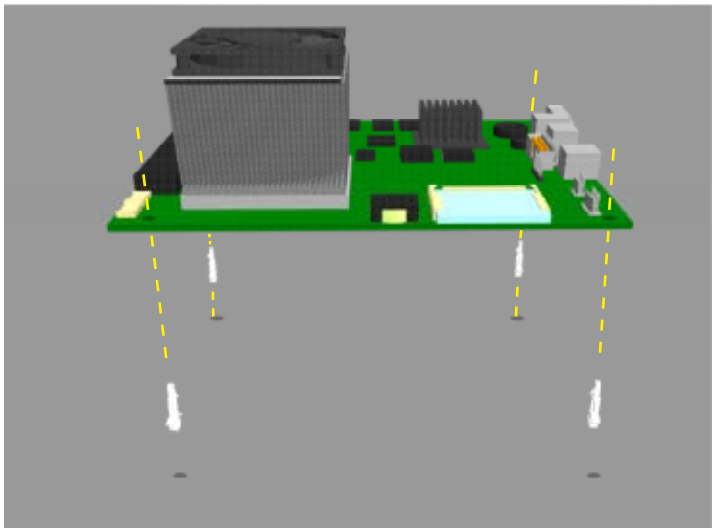
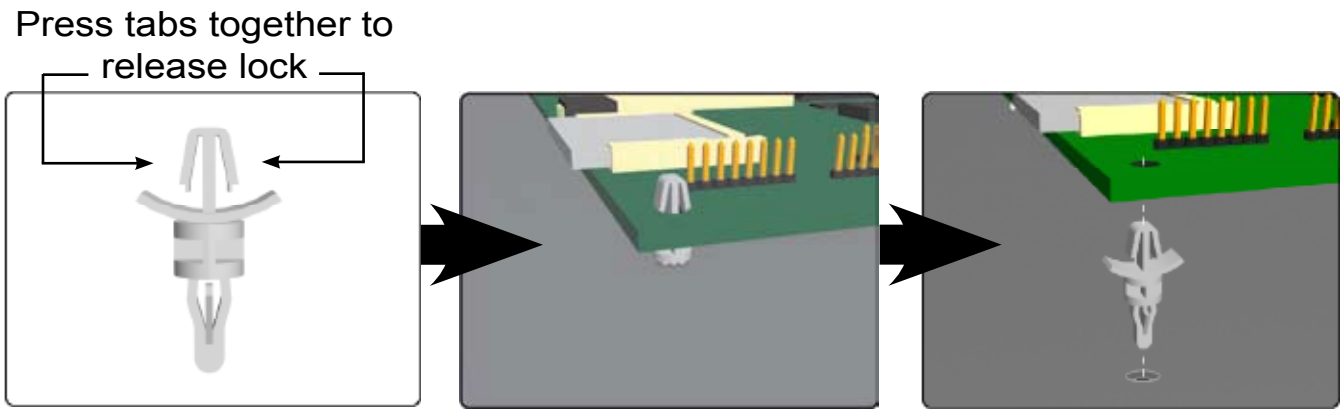


Fig. 2



1. Once SBC is removed, The Compact Flash Memory Card can now be removed.
2. Place the old Compact Flash Memory Card into new SBC **.NOTE: Unit will not function without original Memory Card.**

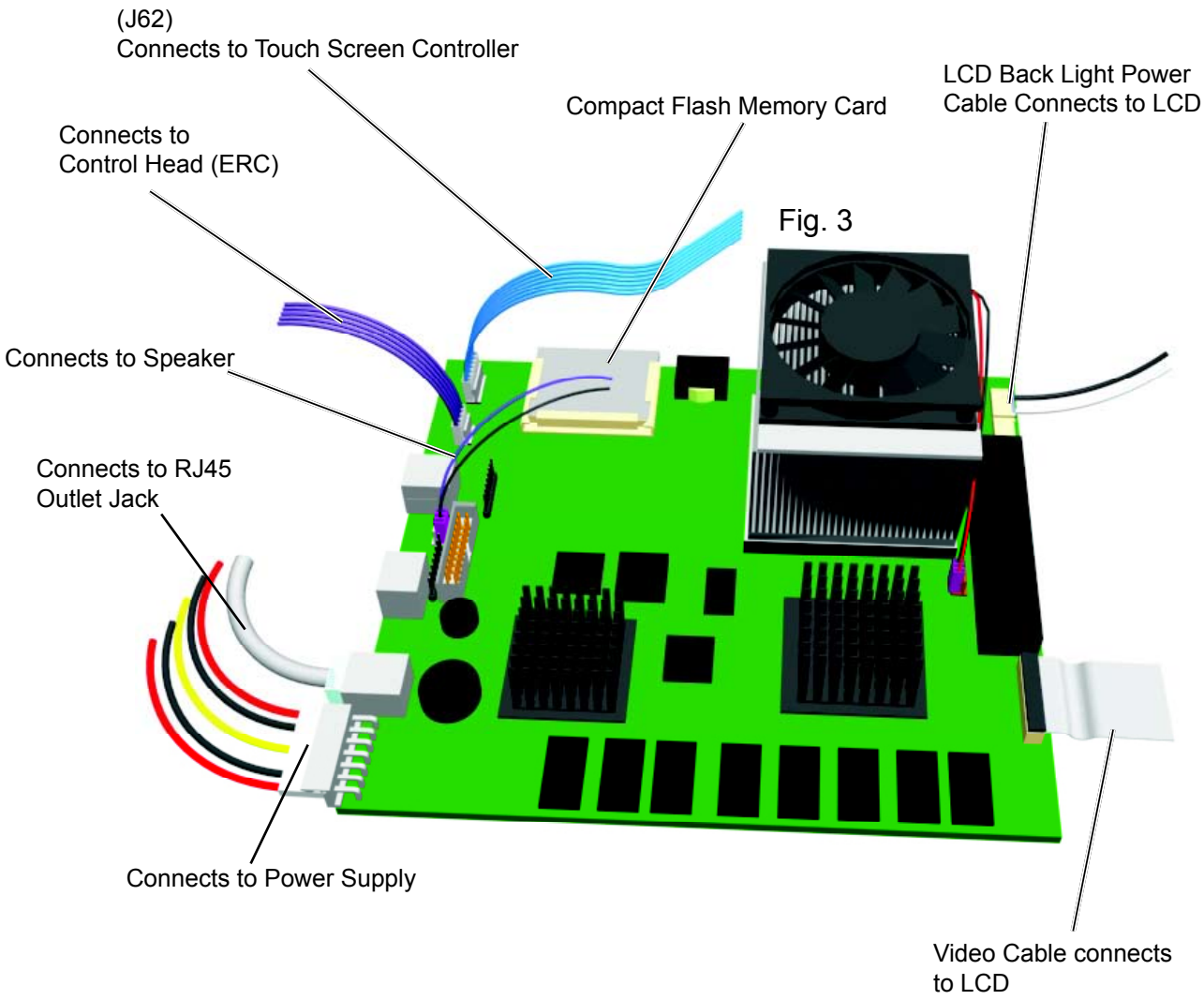
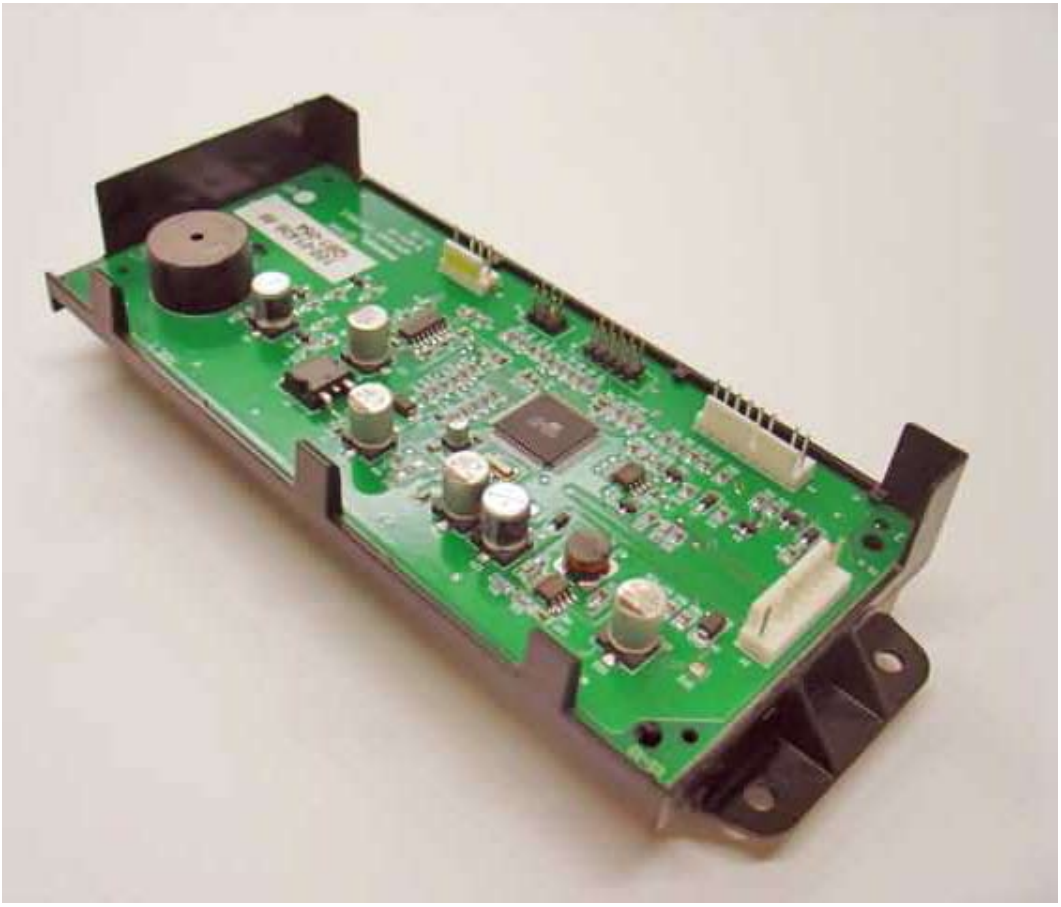


Fig. 3

Removing the ERC



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the ERC

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical compnents

1. Ensure electrical power to oven is off.
2. Disconnect all wire connections from Control Head Board. **(Always pull from metal terminal not wire. Pulling on wire can cause damage to wire or terminal).**
3. To release Control Head Board, use pliers to squeeze the top of (4) locking tabs, see (Fig. 5).
4. Carefully lift Control Head Board to release and remove from oven, see (Fig. 4).

Fig. 4

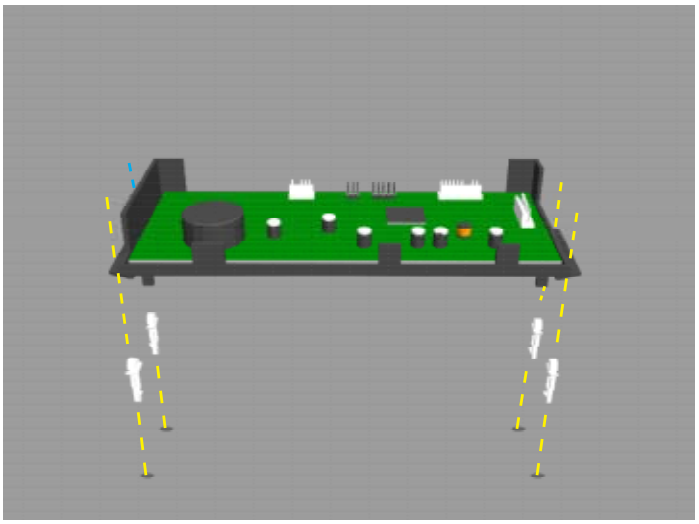
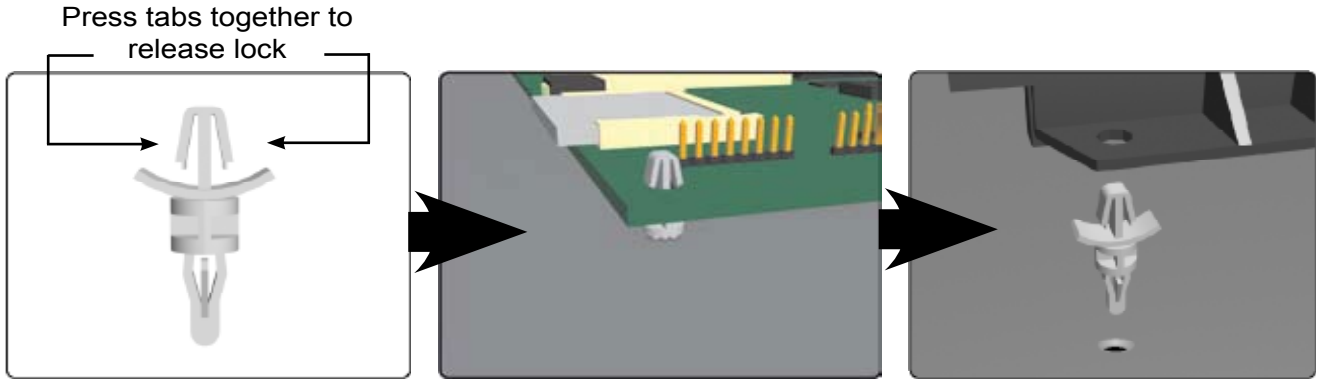
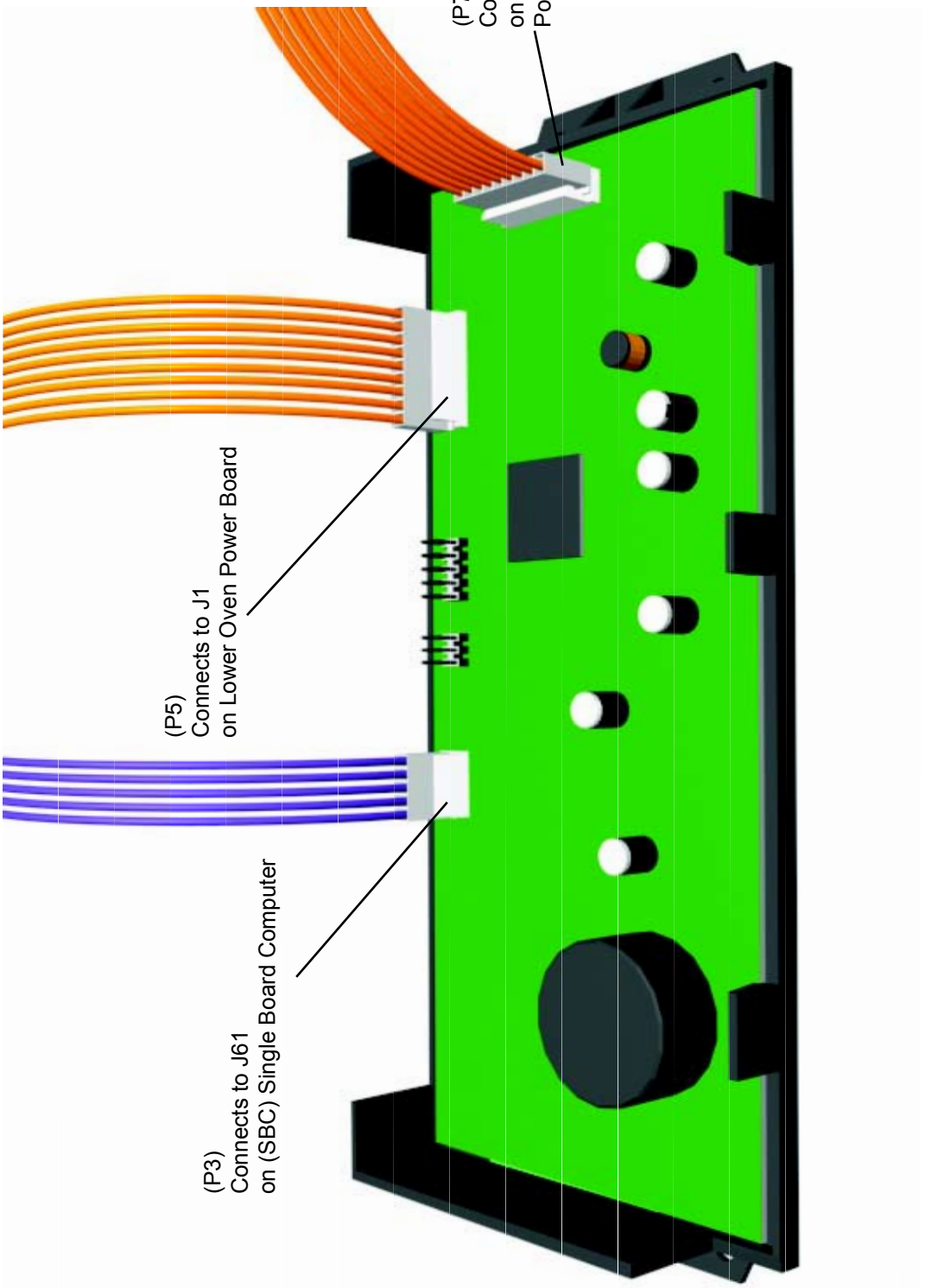


Fig. 5

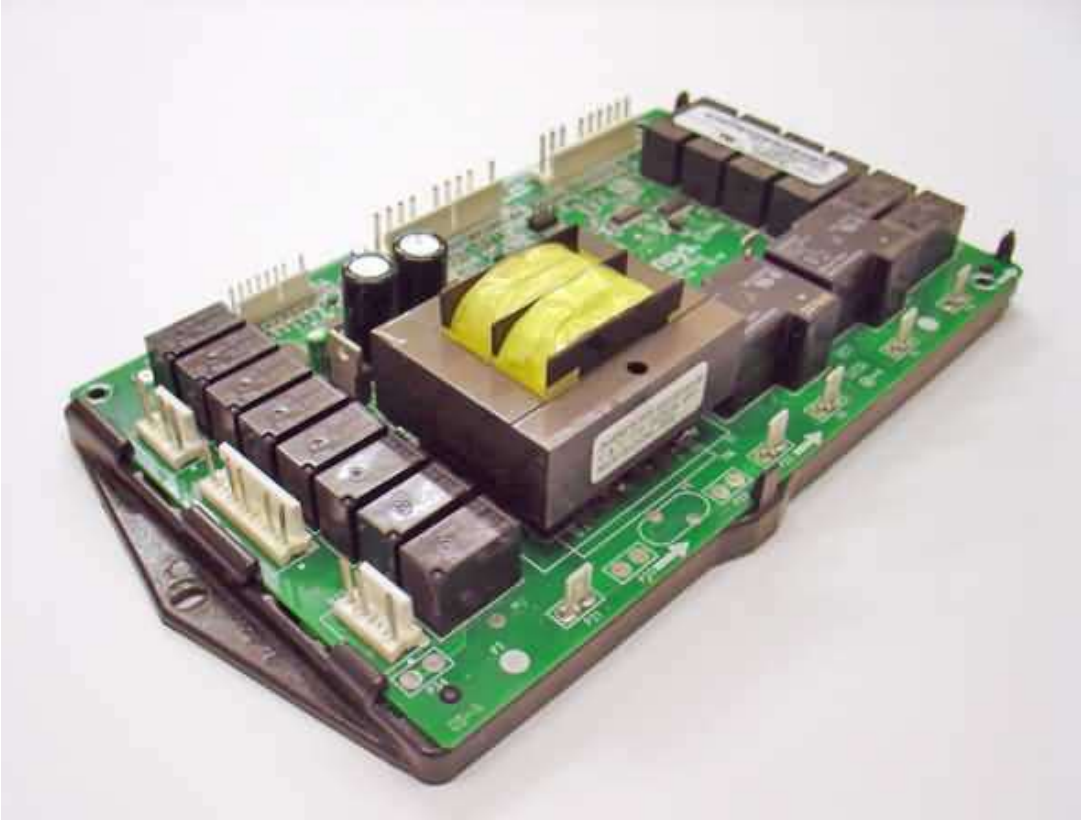


Control Head Board Wiring

Fig. 6



Removing the Power Board



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the Power Board

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical components

1. Disconnect all wire connections from Power Board. **(Always pull from metal terminal not wire. Pulling on wire can damage wire or terminal).**
2. Remove (1) screw from side of Power Board, see (Fig. 7).
3. Gently push Power Board to release tabs from bottom of Electrical Enclosure Base, see (Fig. 8).
4. Remove Power Board from oven, see (Fig. 9).

Fig. 7

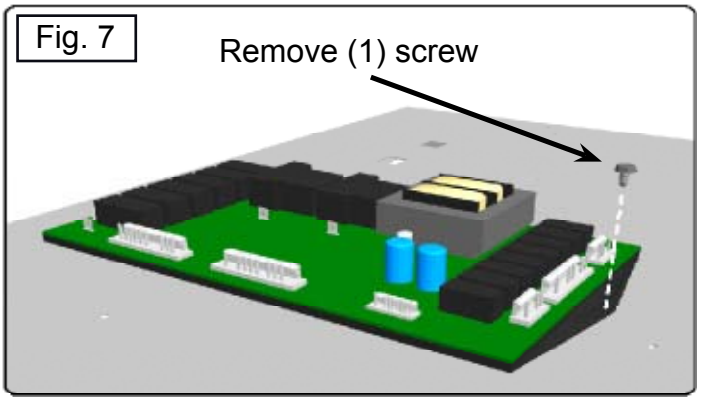


Fig. 8

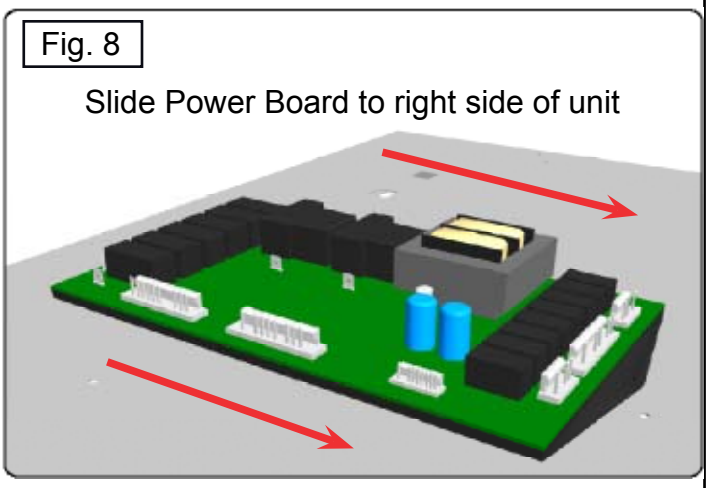


Fig. 9

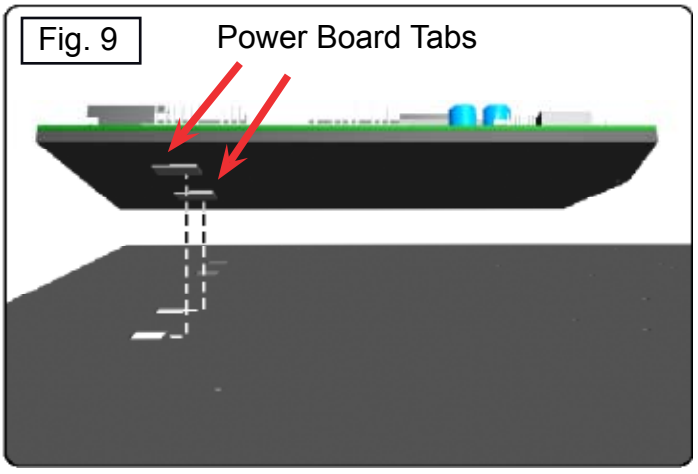
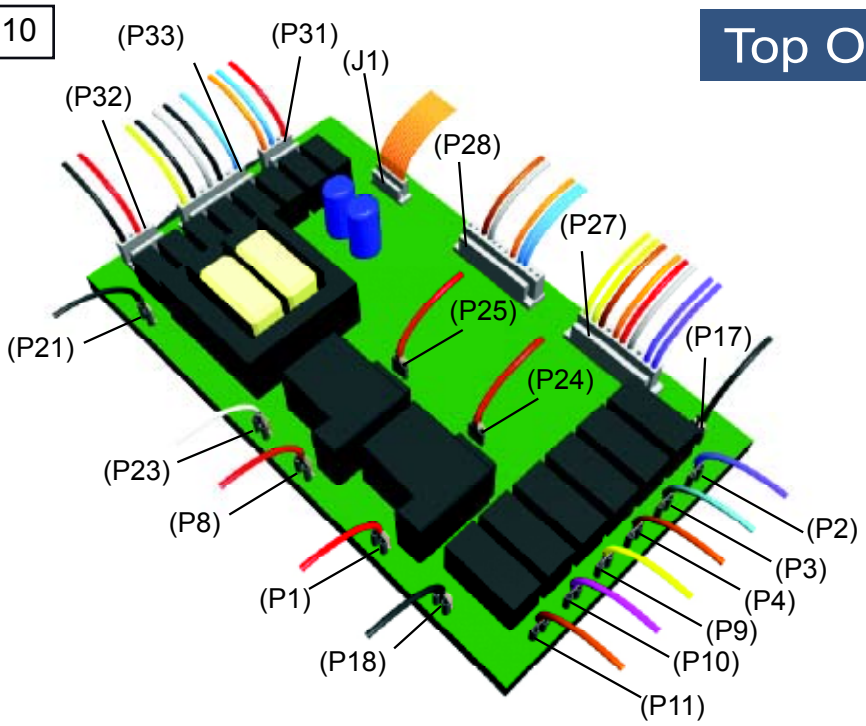


Fig. 10

Top Oven Power Board

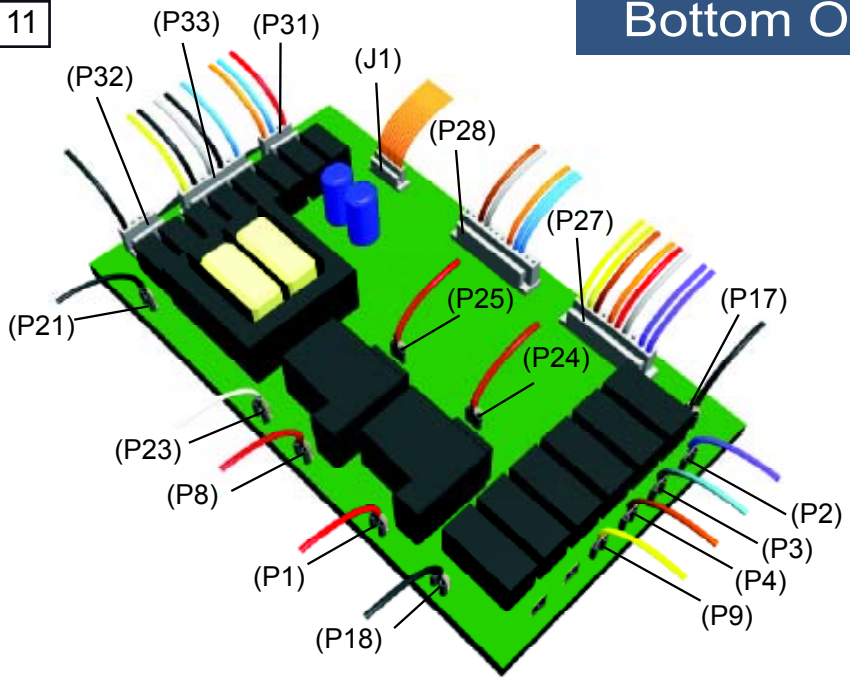


Label	Wire Color	Wire #	Connects to
P1	Red	81	Terminal Block (L2)
P2	Purple	7	Inner Broil Element
P3	Blue	8	Outer Broil Element
P4	Brown	9	Conv Element
P8	Red	90	Terminal Block (L2)
P9	Yellow	10	Bake Element
P10	Violet	51	Ref. Compressor
P11	Brown	52	Ref. Defrost Heater Strip
P17	Black	N/A	Top T.O.D
P18	Black	1	Terminal Block (L1)
P21	Black	5	Terminal Block (L1)
P23	White	24	Terminal Block (L1)
P24	Red	82	Rear T.O.D
P25	Red	81	Rear T.O.D
P27	Yellow	16	Meat Probe Jack
	Yellow	17	Meat Probe Jack
	Brown	18	Door Lock
	Orange	23	Door Lock
	Red	22	Door Lock
	Gray	21	Door Lock
	Purple	N/A	Oven Sensor
	Purple	N/A	Oven Sensor

Label	Wire Color	Wire #	Connects to
P28	Brown	200	Damper Motor
	Grey	201	Damper Motor
	Orange	202	Damper Motor
	Blue	203	Evaporator Sensor
	Blue	204	Evaporator Sensor
P31	Orange	31	Cooling Fan High
	Blue	13	Conv Low Speed
	Red	32	Damper Motor Power
P32	Black	3	Terminal Block (L1)
	Red	50	Refrigeration
P33	Yellow	39	Oven Lights
	Purple	30	Cooling Fan Low
	Grey	17	Conv Fan High
	Black	N/A	Terminal Block (L1)
	Blue	28	Door Lock
J1	Orange	N/A	Control Head

Fig. 11

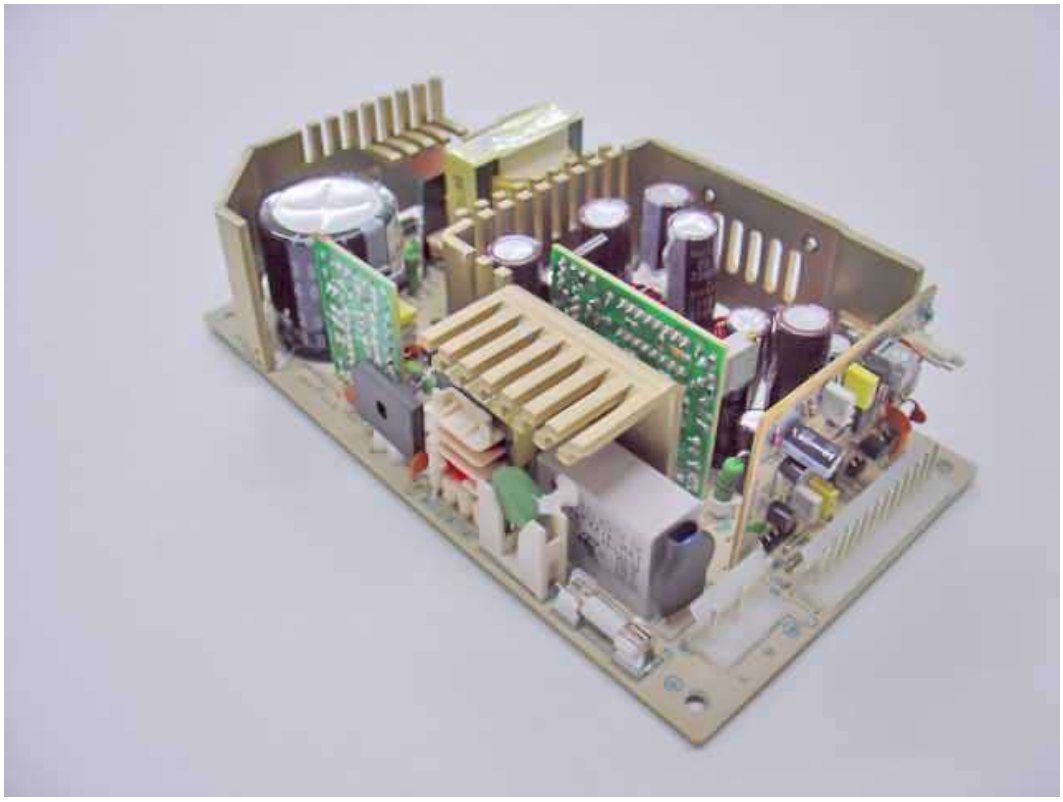
Bottom Oven Power Board



Label	Wire Color	Wire #	Connects To
P1	Red	92	Terminal Block (L2)
P2	Purple	133	Inner Broil Element
P3	Blue	134	Outer Broil Element
P4	Brown	135	Conv Element
P8	Red	93	Terminal Block (L2)
P9	Yellow	136	Bake Element
P17	Black	N/A	Top T.O.D
P18	Black	56	Terminal Block (L1)
P21	Black	5	Terminal Block (L1)
P23	White	57	Terminal Block (L1)
P24	Red	88	Rear T.O.D
P25	Red	87	Rear T.O.D
P27	Yellow	108	Meat Probe Jack
	Yellow	109	Meat Probe Jack
	Brown	110	Door Lock
	Orange	111	Door Lock
	Red	112	Door Lock
	Gray	113	Door Lock
	Purple	114	Oven Sensor
	Purple	115	Oven Sensor

Label	Wire Color	Wire #	Connects to
P28	Brown	200	Damper Motor
	Grey	201	Damper Motor
	Orange	202	Damper Motor
	Blue	203	Sensor
	Blue	204	Sensor
P31	Orange	107	Cooling Fan High
	Blue	106	Conv Low Speed
	Red	123	Damper Motor Power
P32	Black	124	Terminal Block (L1)
P33	Yellow	118	Oven Lights
	Purple	119	Cooling Fan Low
	Grey	120	Conv Fan High
	Black	121	Terminal Block (L1)
	Blue	122	Control Head

Removing Power Supply



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

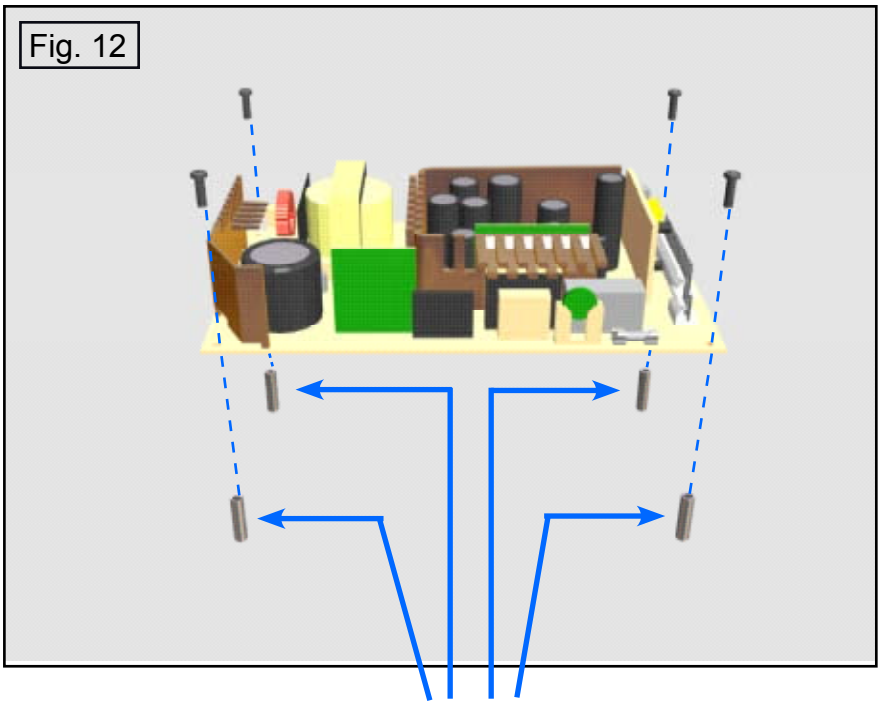
Removing Power Supply

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical compnents

1. Ensure electrical power to oven has been shut off.
2. Disconnect all wire connections from Power Supply. **(Always pull from connector not wires. Pulling on wire can damage wire or connector.)**
3. Using pliers hold hex stand off legs to prevent from turning.
4. Remove (4) Phillips screws from corners of power supply, see (Fig. 12).
5. Remove power supply from oven.

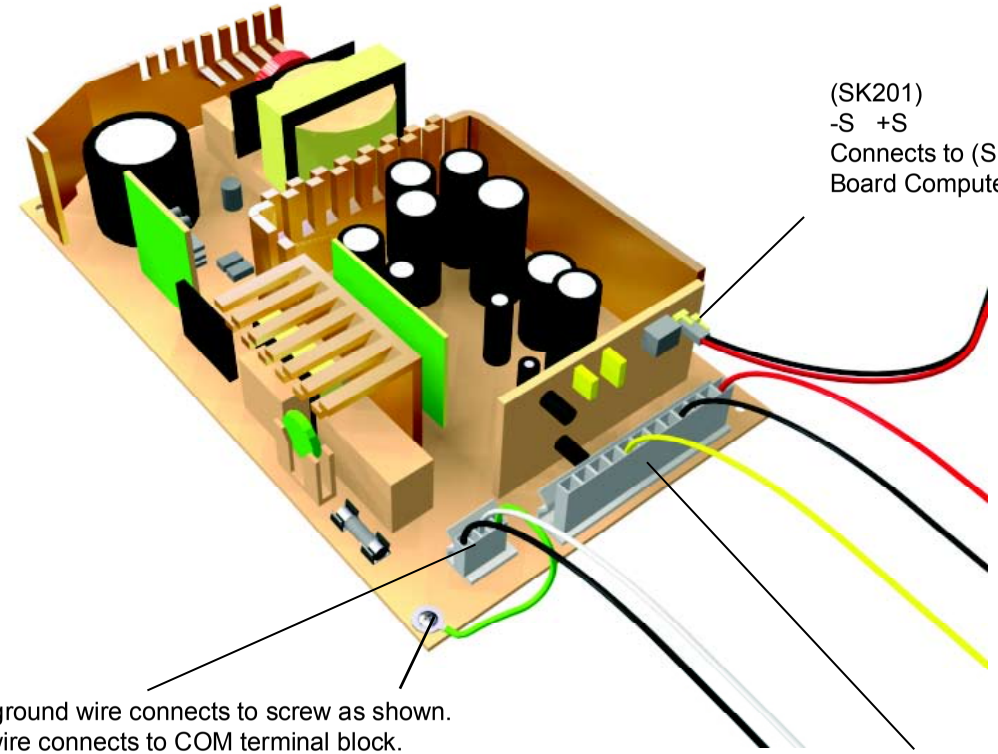
Fig. 12



Secure with pliers to ensure standoff legs do not turn while removing screws

Power Supply Wiring Layout

Fig. 13



(SK201)
-S +S
Connects to (SBC) Single Board Computer

All (5) wires connect together into one female connector that connects to (SBC) Single Board Computer

(SK1)
Green ground wire connects to screw as shown.
White wire connects to COM terminal block.
Black wire connects to reset box located at refrigeration system.

(SK2)
Connects to (SBC) Single Board Computer

Removing Meat Probe Jack

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Meat Probe Jack

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Remove unit from cabinet.
2. Remove rear covers
3. Remove (2) screws from right side of rear insulation retainer (Fig.14).
4. Remove (14) screws from side panel (Fig.15).
5. Remove (2) screws from top vent trim as shown in (Fig.16).

Fig. 14

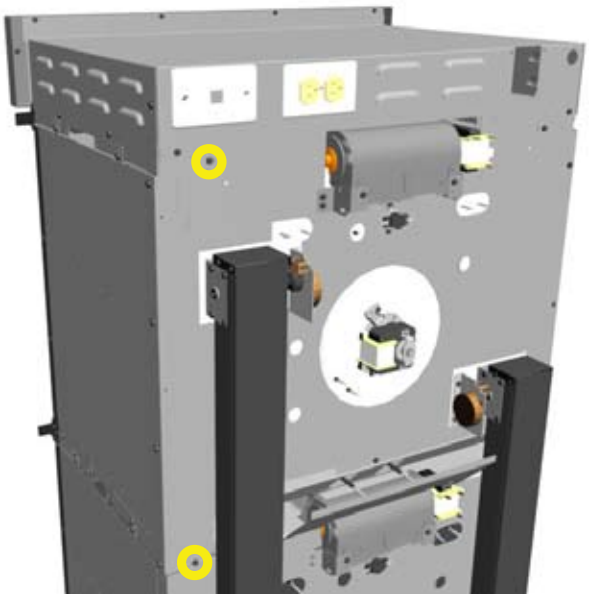


Fig. 15

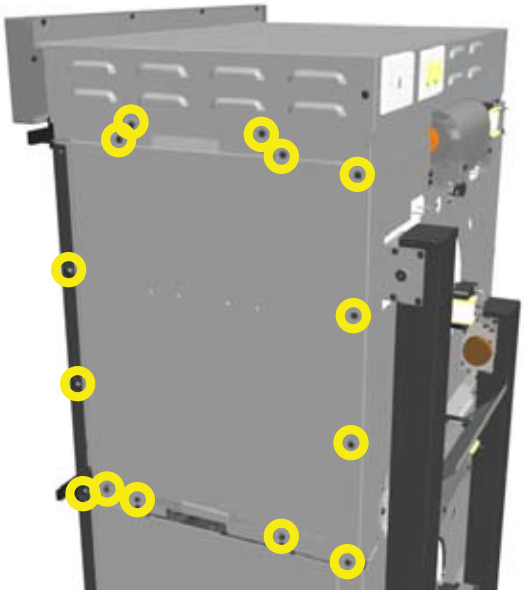
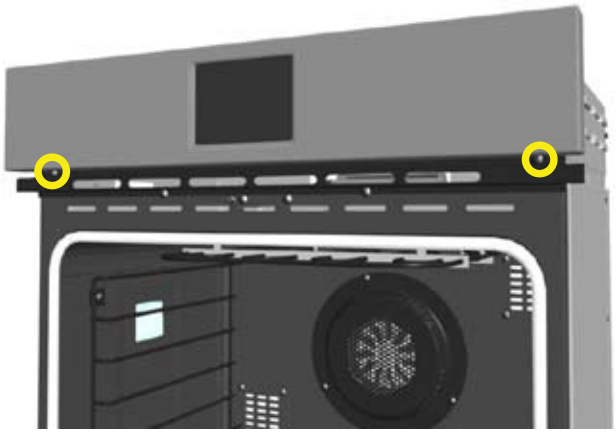


Fig. 16



Removing Meat Probe Jack

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Carefully pull rear insualtion retainer away from unit as shown in (Fig. 17).
2. Carefully lift up the right side of the electronics enclosure to access (3) screws in top of side panel (Fig. 18).
3. Remove (3) screws from side panel.
4. Carefully pull side panel out from rear of unit, then slide side panel toward rear of unit to remove (Fig.19).

Fig. 17

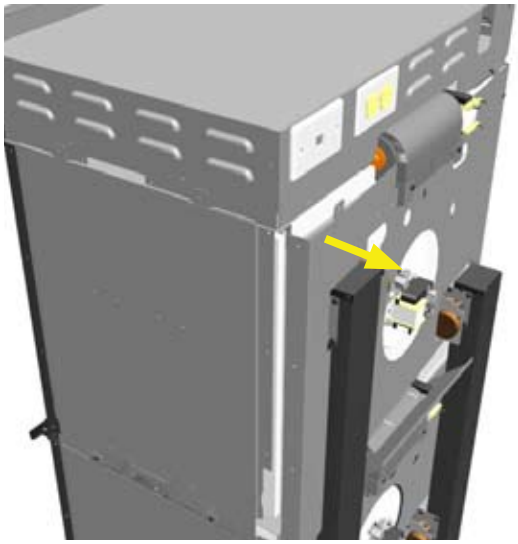


Fig. 18

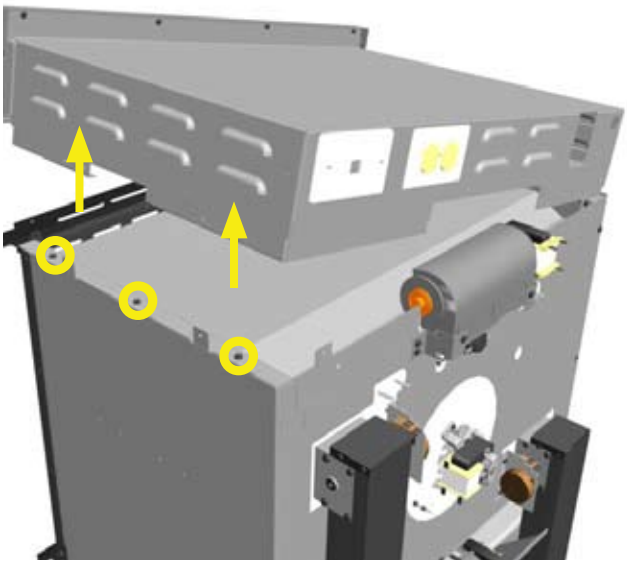
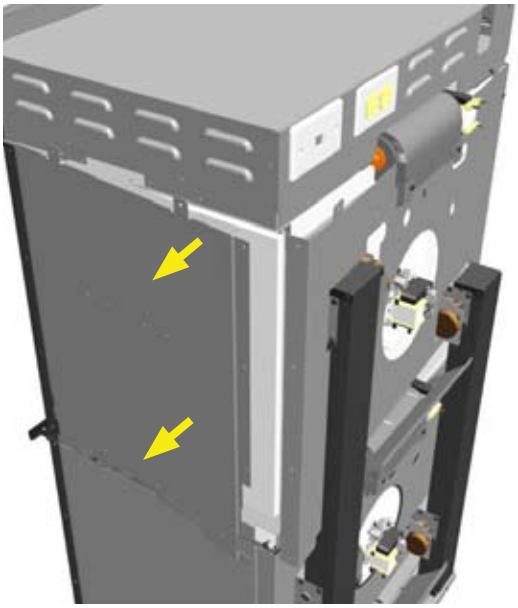


Fig. 19



Removing Meat Probe Jack

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Carefully remove Lock Nut from meat probe jack (Fig. 20).
2. Pull meat probe jack through insulation as shown in (Fig. 21). Do not tear insulation.
3. Disconnect Jack Connector in rear of unit (Fig. 22).
4. Pull connector through rear cover and remove jack from unit.

Fig. 20

Fig. 21

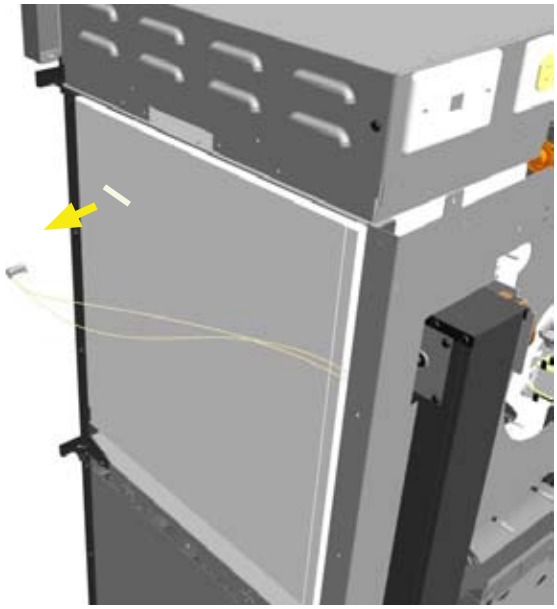
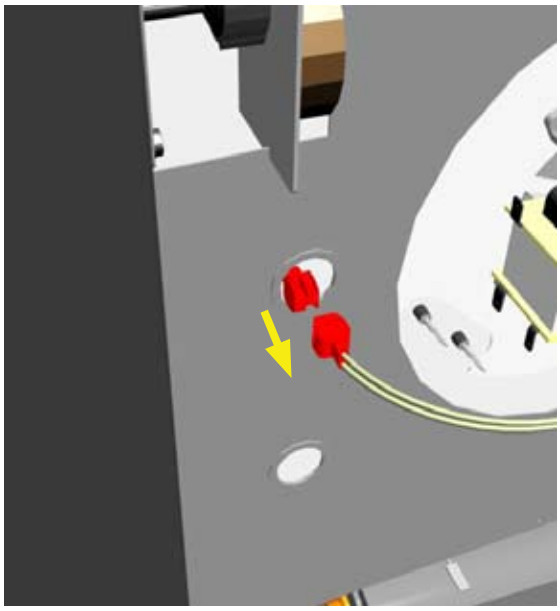


Fig. 22



Removing the T.O.D

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the T.O.D

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical components

1. Disconnect (2) wires from T.O.D. **NOTE: Pull from terminal not wire** (Fig. 23).
2. Remove (2) screws from T.O.D. (Fig. 24).
3. Remove T.O.D. (Fig. 25).

Fig. 23

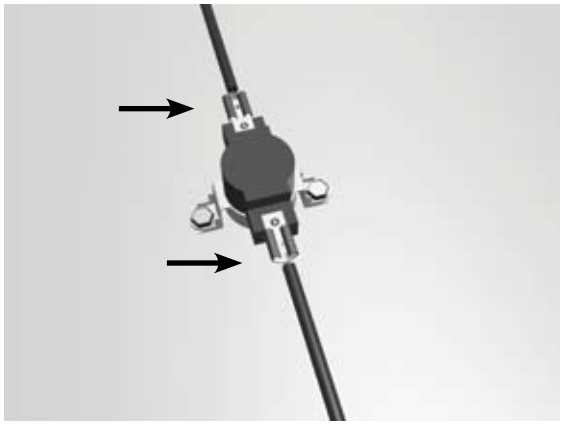


Fig. 24

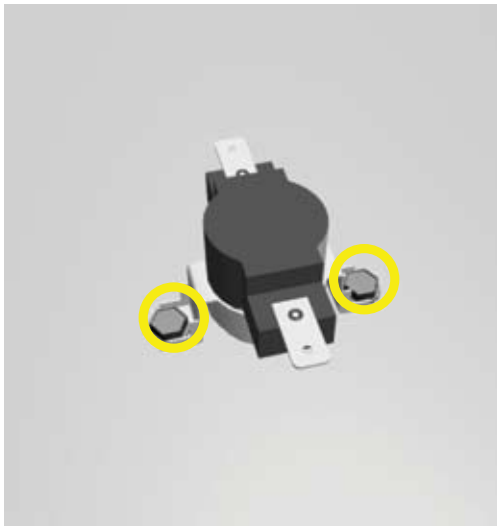


Fig. 25

Removing Oven Sensor

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Oven Sensor

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Remove (2) screws from Oven Sensor Shield (Fig. 26).
2. Remove shield and set aside.
3. Pull Oven Sensor forward until connectors are accessible through opening in rear of oven (Fig. 27).
4. To disconnect the sensor connector, press down the locking tab and pull connectors apart (Fig. 28, Fig. 29).
5. Remove sensor from oven.

Fig. 26

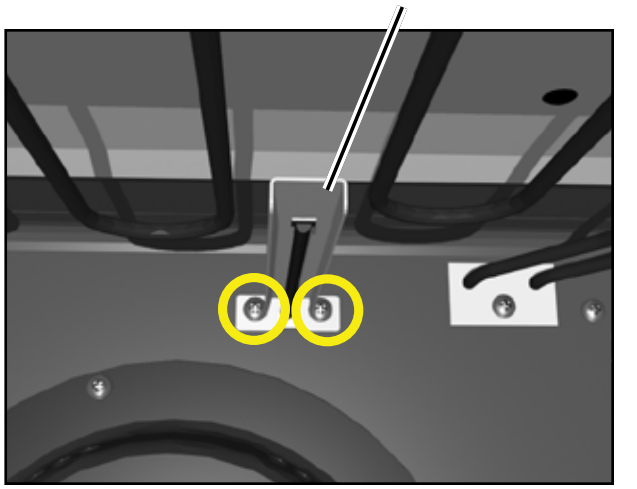


Fig. 27

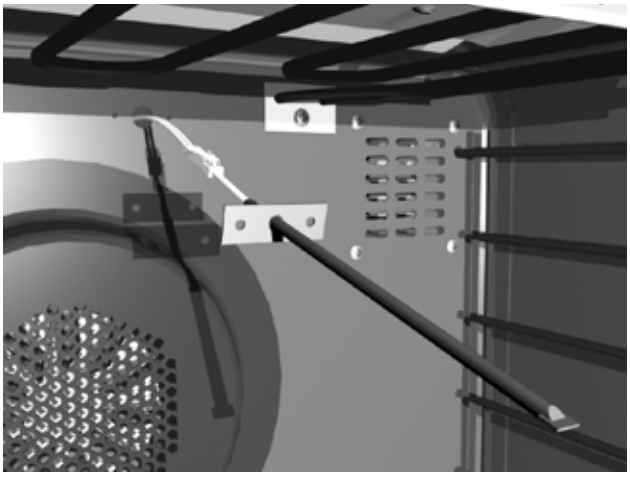


Fig. 28

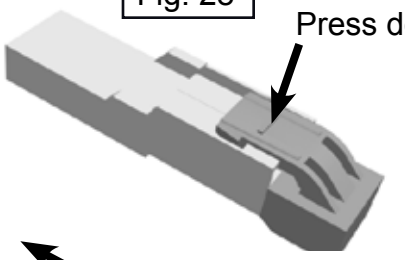
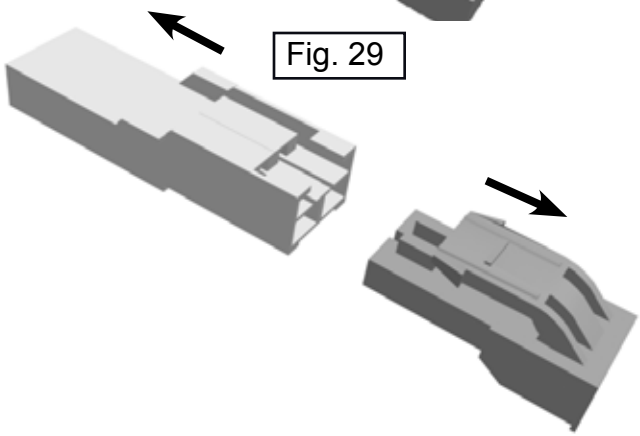
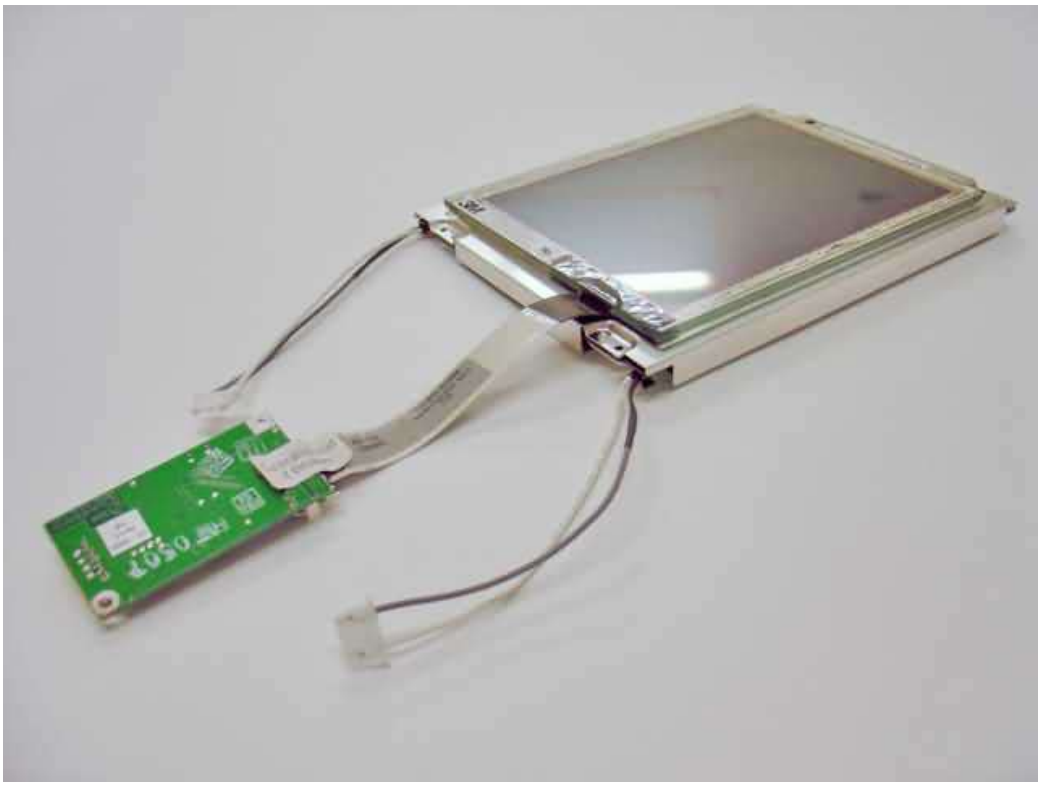


Fig. 29



Removing LCD Touch Screen



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Control Panel

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (6) screws from rear of control panel, (4) across the top and (1) on each side of side trim.
2. Remove (4) screws from top vent trim (Fig. 31).
3. Remove vent trim.

Fig. 30

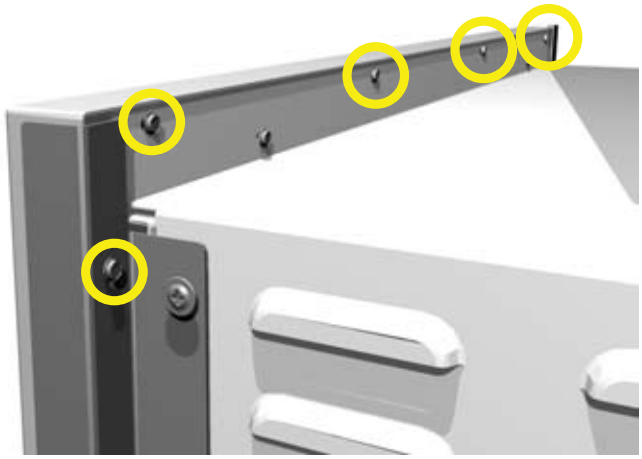
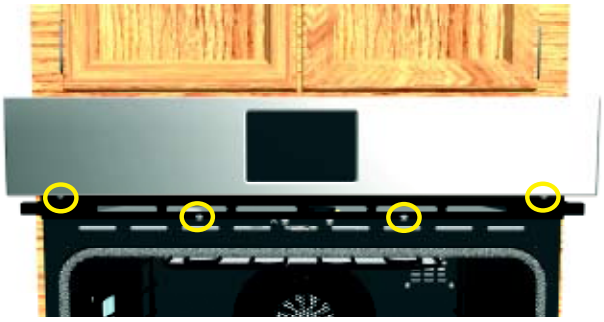


Fig. 31

Top Vent Trim



Removing Control Panel

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Tilt control panel forward to access wires (Fig. 32).
2. Disconnect video, backlight, and control cables from LCD (Fig. 33).

Fig. 32

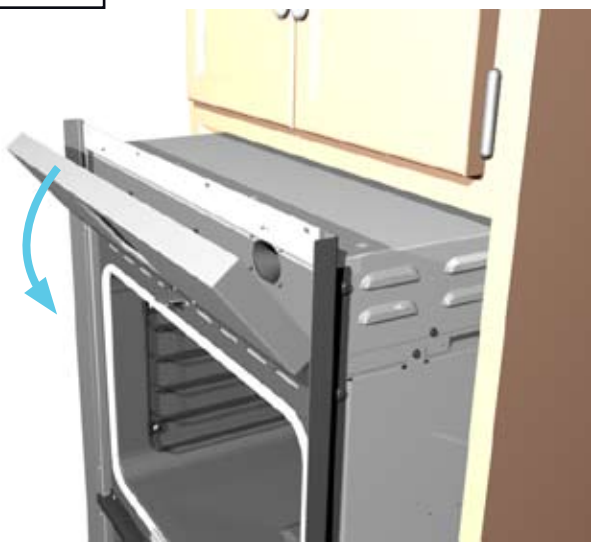
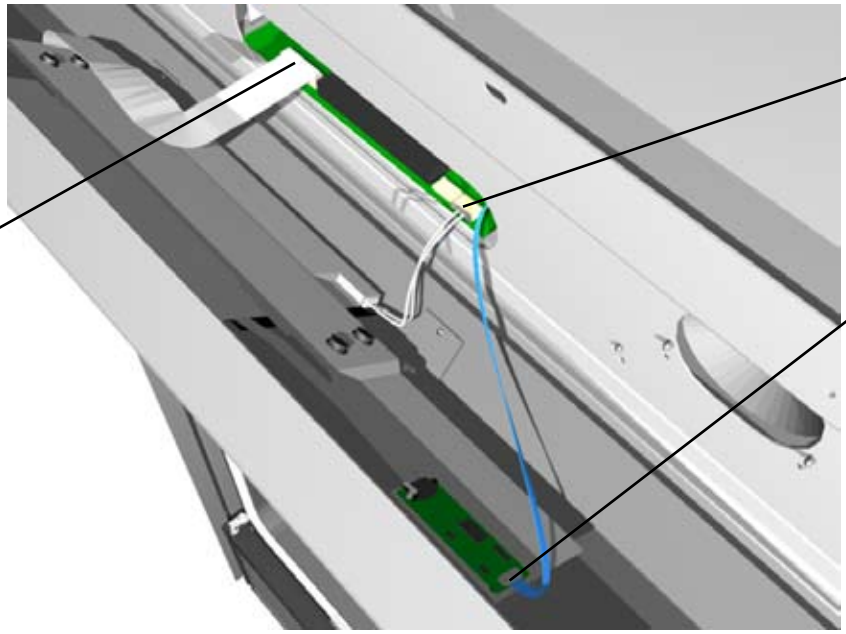


Fig. 33



Removing LCD

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (2) screws from bottom of the control panel (Fig. 34).
2. To release LCD from control panel, pull bottom of LCD brackets forward and lift out (Fig. 35).

Fig. 34

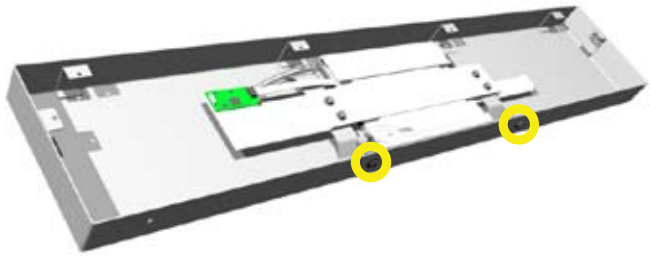
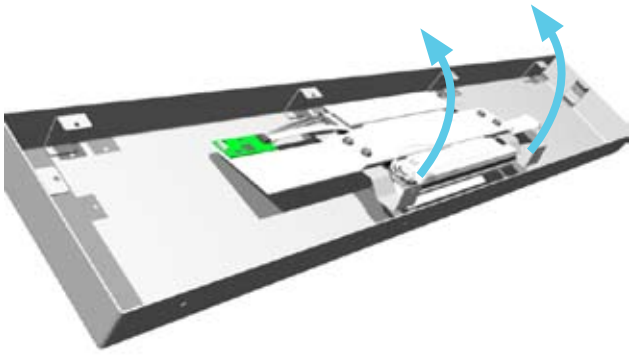


Fig. 35



Removing LCD

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (2) screws from electronic board (Fig. 36). Use pliers to secure the nuts on rear of bracket (Fig. 37).

Fig. 36

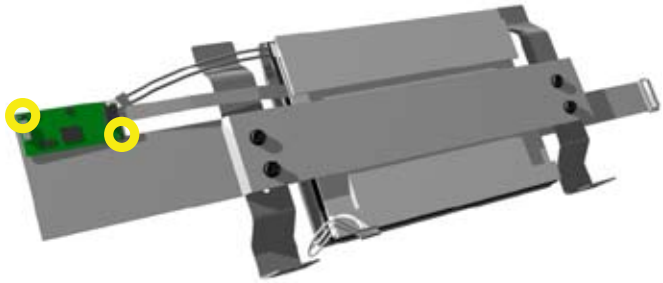
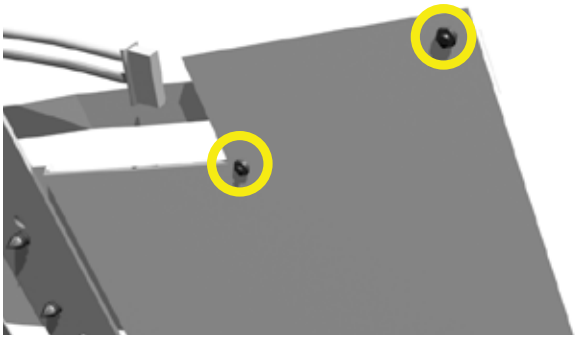


Fig. 37



Removing Speaker

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- It’s recommended you wear kevlar gloves and safety glasses.

Removing Speaker

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical components

1. Disconnect wires from speaker as shown in (Fig. 35). **(Always pull from metal terminal not wire. Pulling on wire can damage wire or terminal).**
2. Remove (4) screws from Speaker, see (Fig. 36).
3. Remove Speaker from oven, see (Fig. 37).

Fig. 35

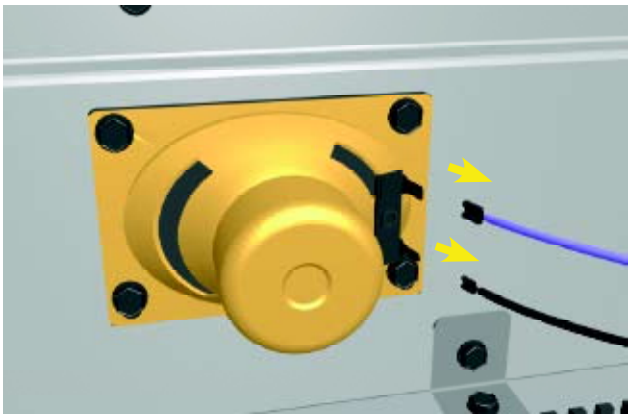


Fig. 36

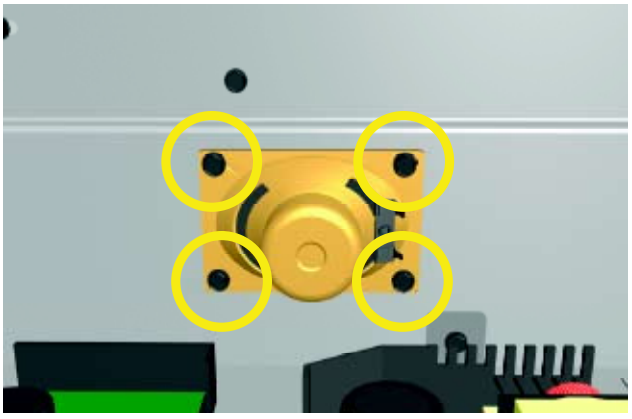


Fig. 37

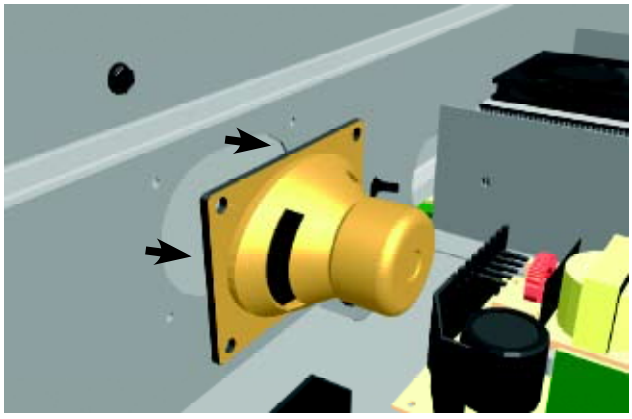
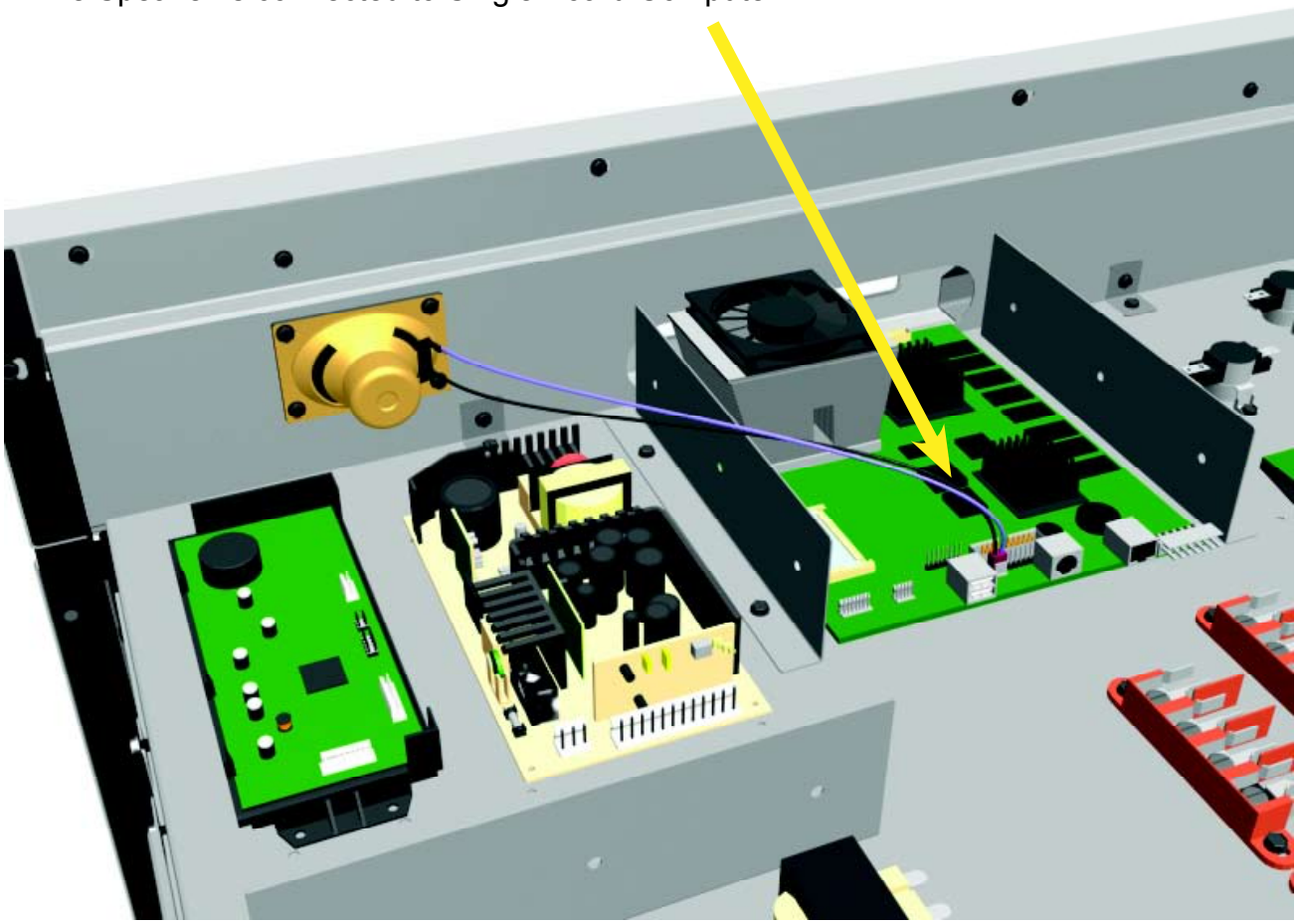


Fig. 38

The Speaker is connected to Single Board Computer.



Removing Transformer

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical compnents

1. Disconnect all wire connections from Transformer. **(Always pull from metal terminal not wire. Pulling on wire can damage wire or terminal).**
2. Remove (2) screws from each side of Transformer. Remove part from oven, see (Fig. 39).
3. Remove wires from Transformer, see page 50 (Fig. 40, 41).

Fig. 39

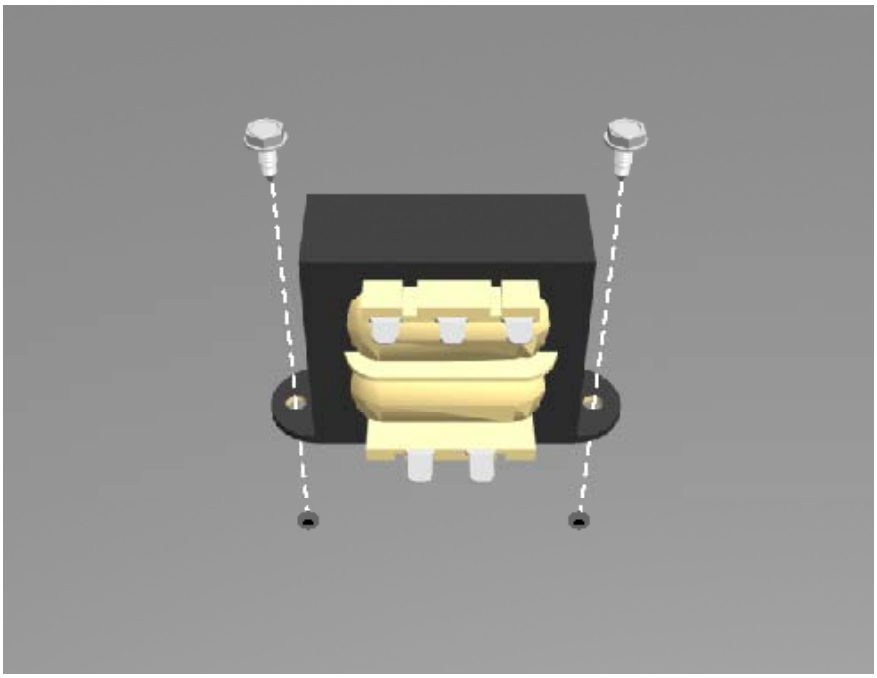


Fig. 40

Top Oven Transformer

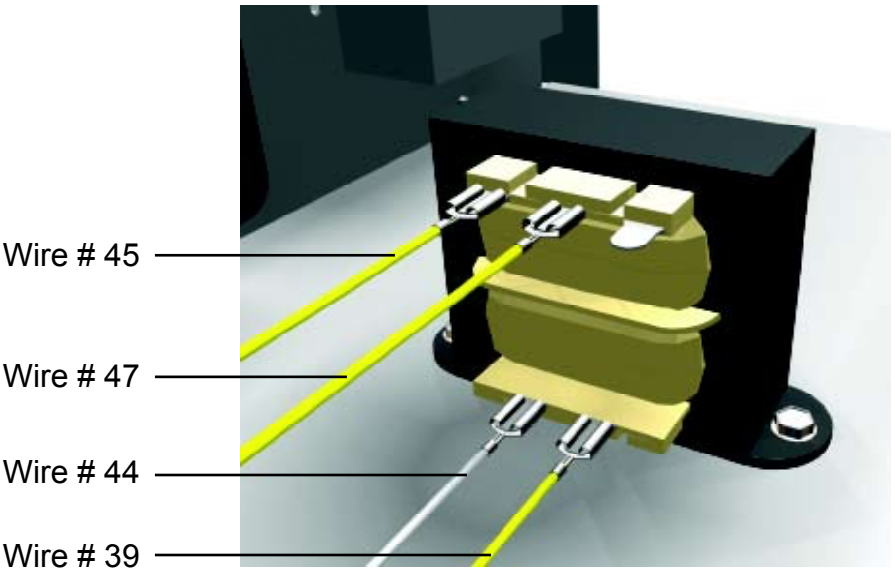
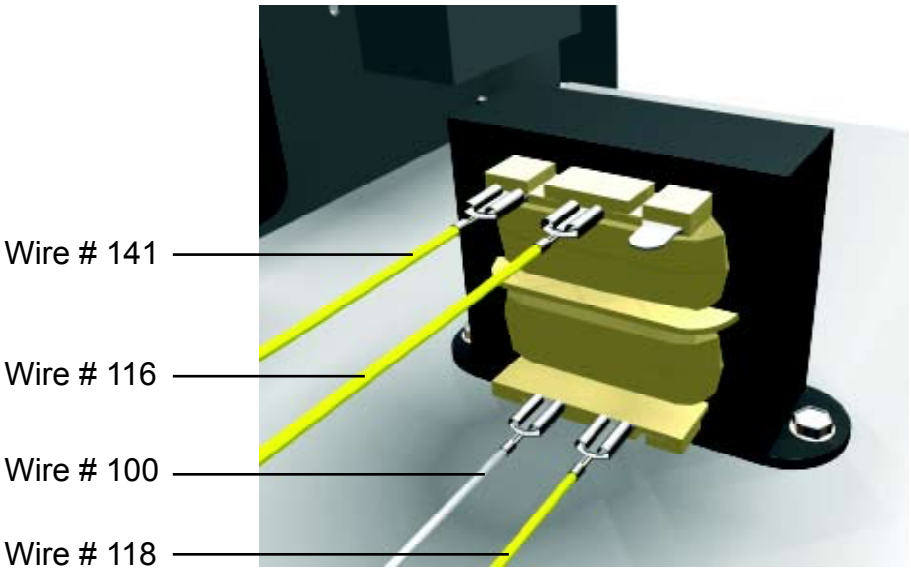


Fig. 41

Bottom Oven Transformer



Section 4
Fan And Motor Removal

Removing Damper Motor

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers
- 2.5 mm Allen wrench

- Kevlar gloves and safety glasses are recommended.

Removing Damper Motor

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. First, loosen the Damper set pin inside the damper box. Access the set pin from front of the refrigeration vents inside oven cavity, see (Fig. 1). If set pin is not visible, the damper is not in the correct position and pliers should be used to grip damper shaft to rotate, see (Fig. 2).
2. Damper should be positioned as shown in (Fig. 3).
3. Use an allen wrench to loosen the set screw through refrigeration slots inside oven cavity. Pin only needs to be loose. **<u>NOTE:</u> Do not remove pin, doing so could cause pin to fall and require further disassembly of unit.**

Fig. 1

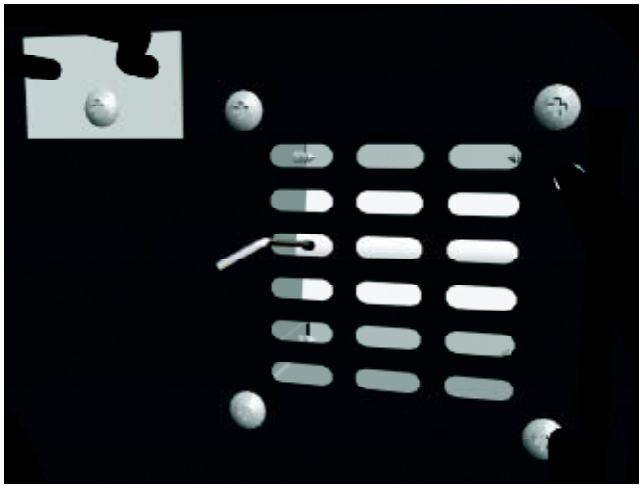
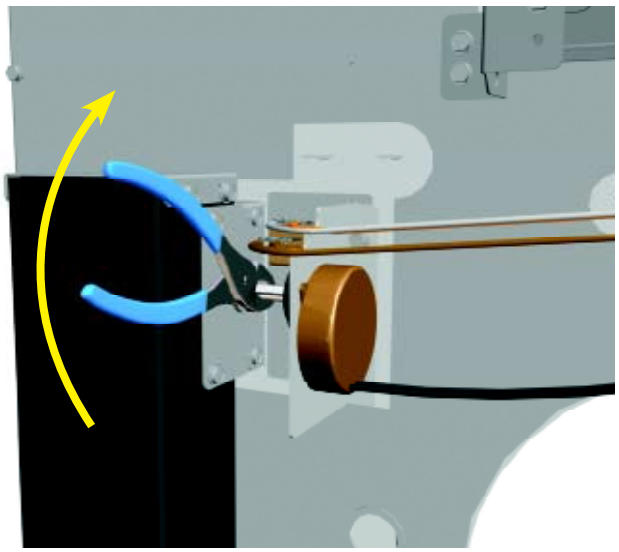


Fig. 2 Front View

Fig. 3



Removing Damper Motor

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Disconnect all wires from Damper Motor. (**<u>NOTE</u>: Always pull from connectors, not the wires. Pulling on the wires can cause damage to wires and terminal.)**
2. Remove (2) screws from damper motor bracket as shown in (Fig. 4).
3. Pull damper motor away from duct as shown in (Fig. 5).
4. Remove damper motor from oven.

Fig. 4

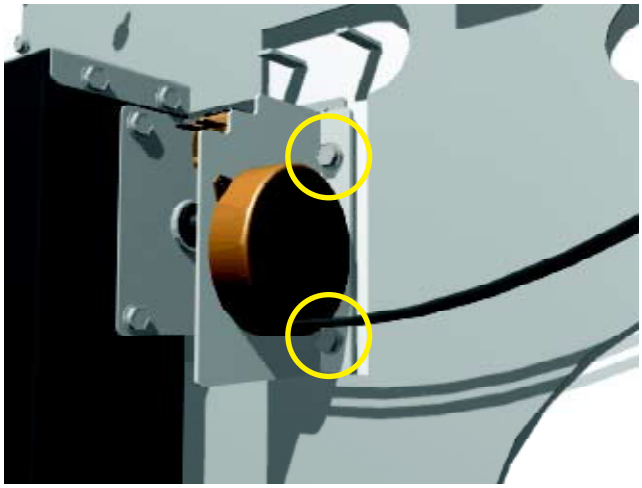
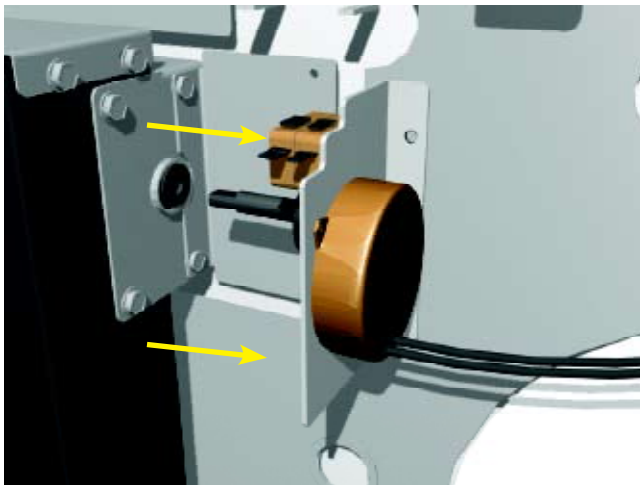


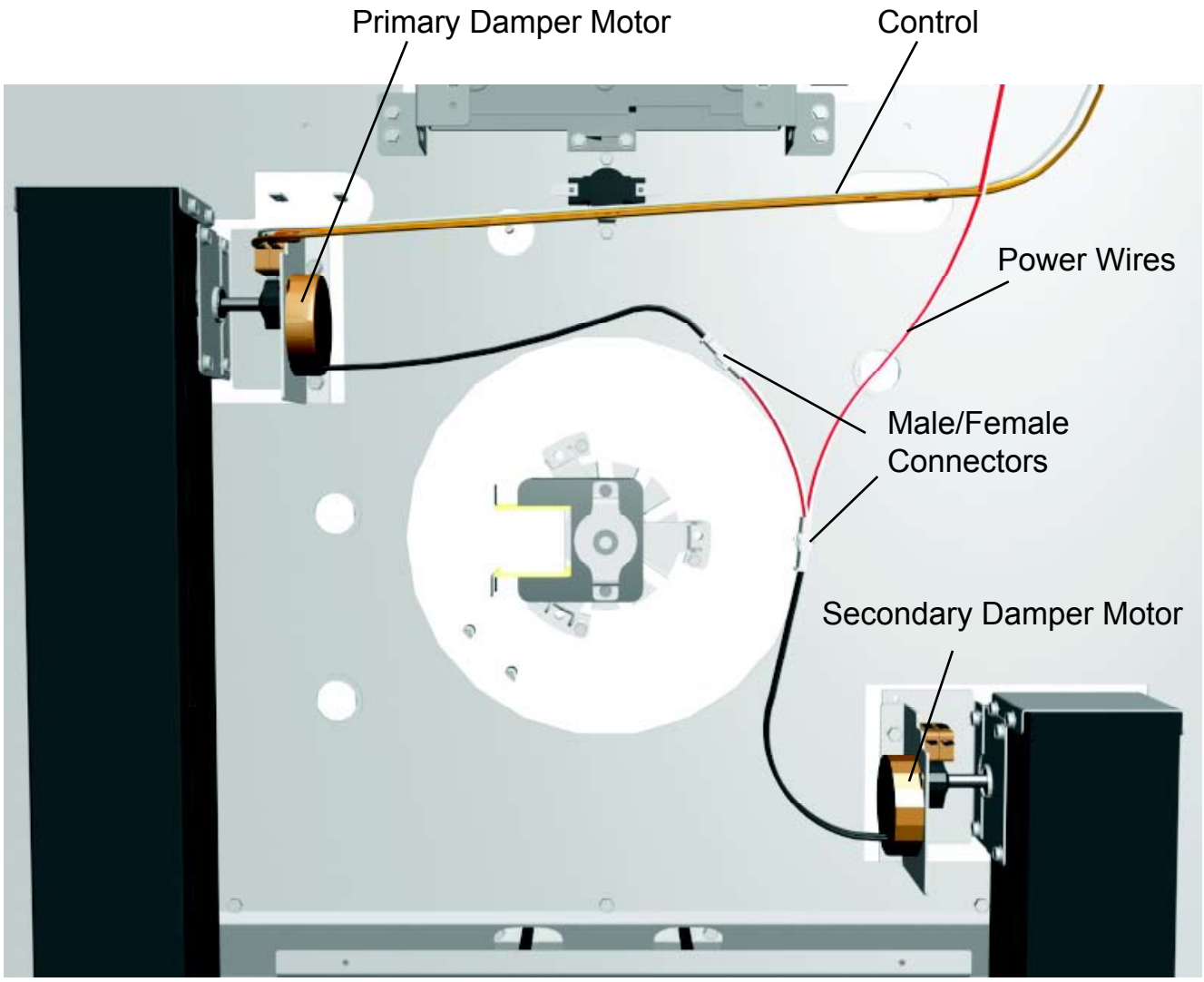
Fig. 5



Damper Motor Wiring

The Damper Motors are connected in pairs, one pair for the top oven and another pair for the bottom oven. The Inlet Damper Motor (top right) is the primary and the Return Damper Motor (bottom left) is the secondary. The Return Damper Motor is connected to the Inlet Damper Motor and the Inlet Damper Motor is connected to the unit. The secondary motor function is controlled by the primary motor , see (Fig. 6) for wiring layout of both Damper Motors.

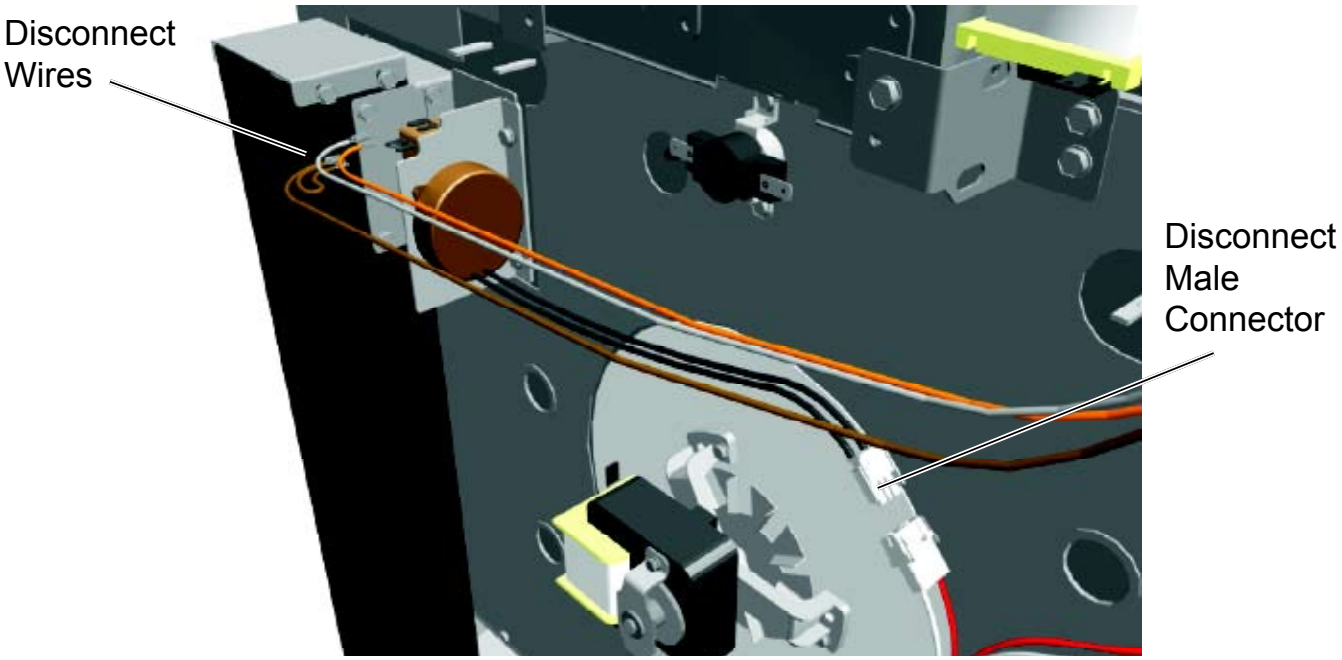
Fig. 6



Damper Motor Wiring

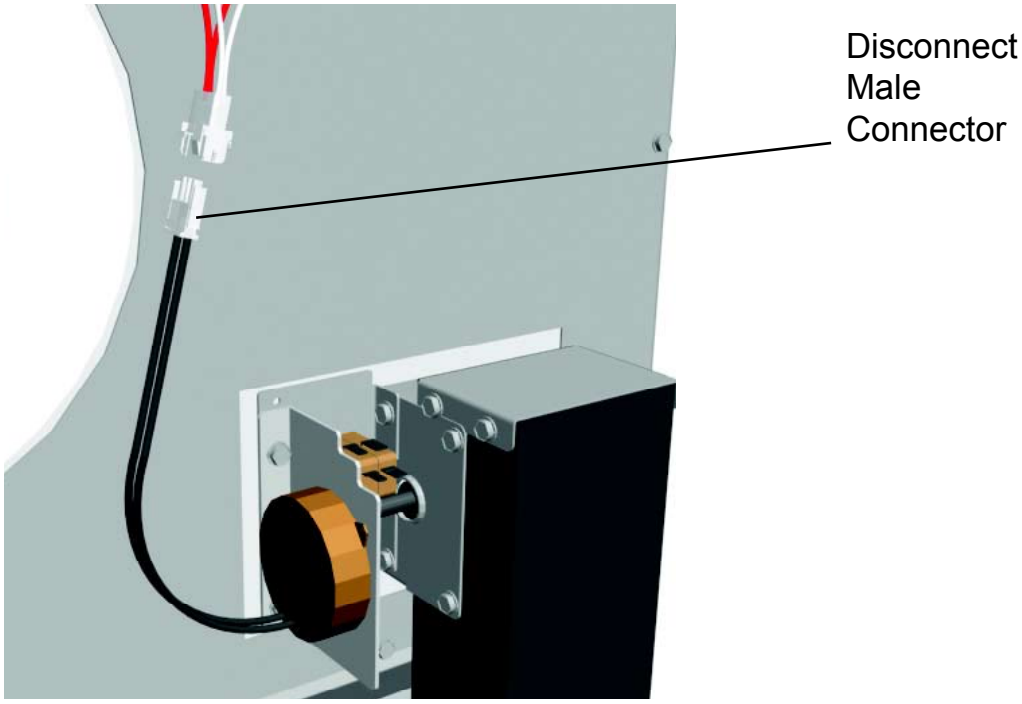
Primary Damper Motor

Fig. 7



Secondary Damper Motor

Fig. 8



Damper Motor Installation

The Damper motor shaft fits into the end of the damp blades. When securing the Damper to the Damper Motor, ensure the Locking Pin is against one of the flat surfaces on the motor shaft as shown in (Fig. 9).

Fig. 9

Side view of Damper

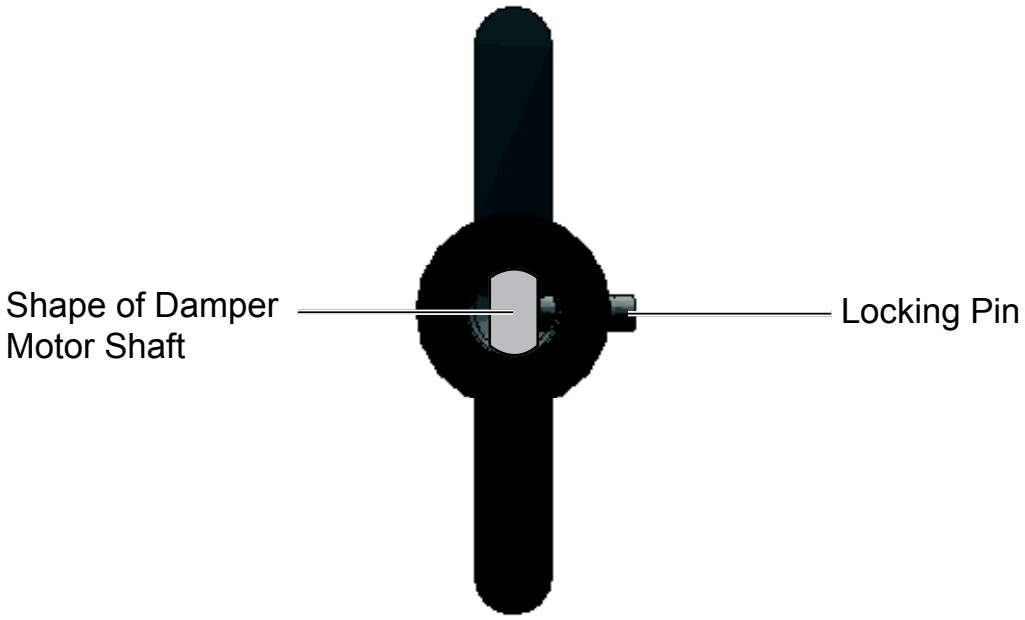
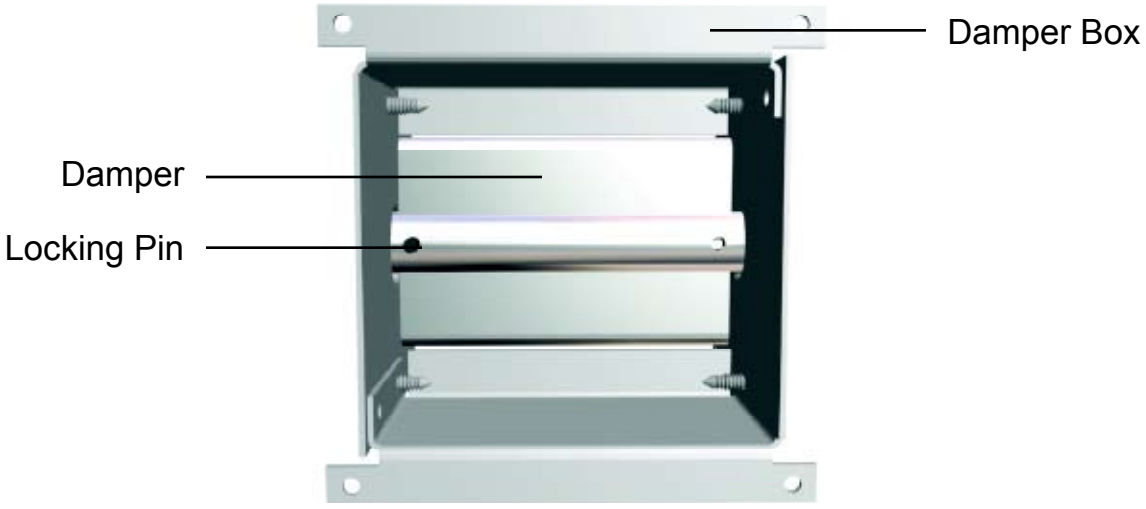


Fig. 10



Damper Motor Installation

When reinstalling the Damper Motor, align both Dampers to each other. If Dampers are not in alignment the refrigeration may not properly function. Both motors must be either open or closed as shown in (Fig. 11, 12). Also ensure the Damper are centered in the damper box to prevent them from jams and causing misalignment. If the Damper looks like (Fig. 13), it is incorrect and adjustments must be made it to correct it (Fig. 11, 12).

Fig. 11 Correct Alignment Closed Position

Fig. 12 Open Position

Fig. 13 Incorrect Alignment

Removing Convection Motor

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Convection Fan Cover

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Porcelain may have sharp edges.

1. Open oven door to access Convection Fan Cover.
2. Remove (3) screws from Fan Cover, see (Fig. 17). **<u>NOTE</u>: Place free hand on Fan Cover to prevent from fall and possibly causing damage**.
3. Remove Cover from oven and set aside.
4. To remove Fan Blades place one hand on Fan Blades to prevent from turning, then use Pliers or wrench to turn nut counterclockwise to loosen and remove.
5. Remove Fan Blades and set aside.

Fig. 17

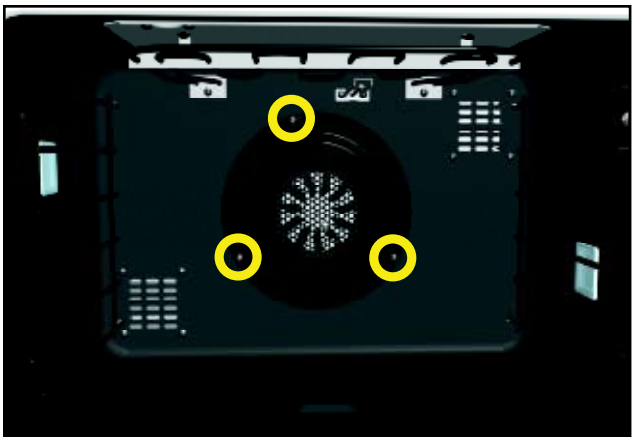
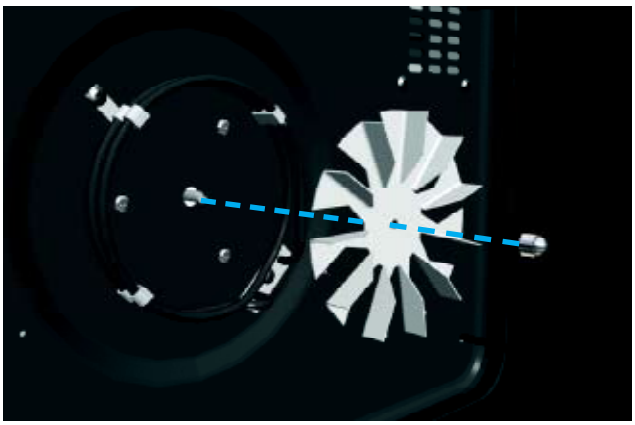


Fig. 18



Removing Convection Motor

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (3) screws as shown in (Fig. 19). **<u>NOTE</u>: These screws are the Convection Motors only support caution is required when removing the last screw to prevent motor from falling from rear of unit.**
2. Remove the wires from Convection Fan Motor as shown in (Fig. 20).
3. Remove Convection Fan Motor from unit and set aside (Fig. 21).

Fig. 19

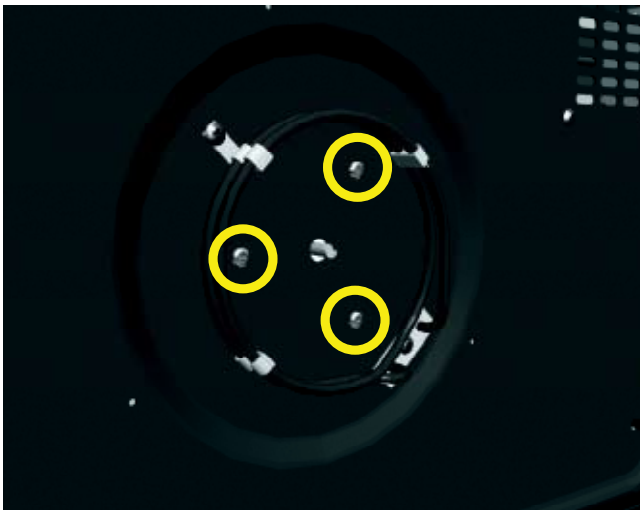


Fig. 20

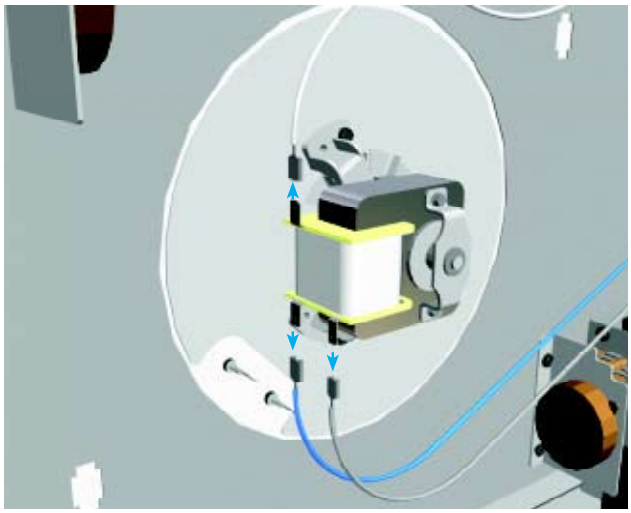
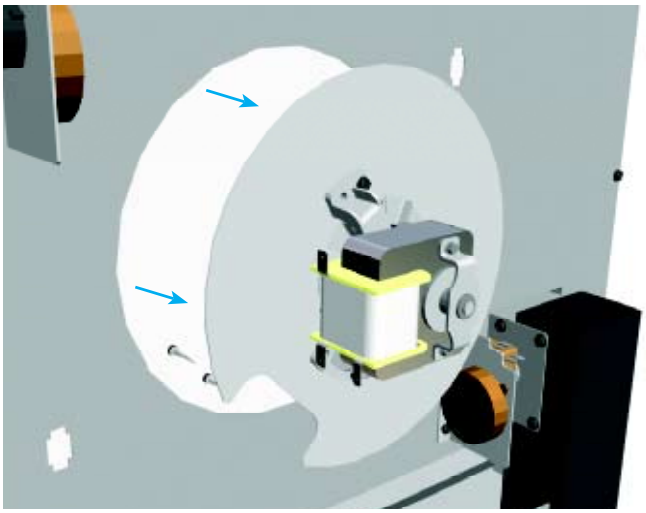


Fig. 21



Removing Convection Insulation Retainer

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (3) screws from Motor to remove Insulation Retainer as shown in (Fig. 22, Fig. 23).
2. Install Insulation Retainer on new Convection Fan Motor. **NOTE: Insulation Retainer must be installed to ensure oven operates safely and correctly.**

Fig. 22

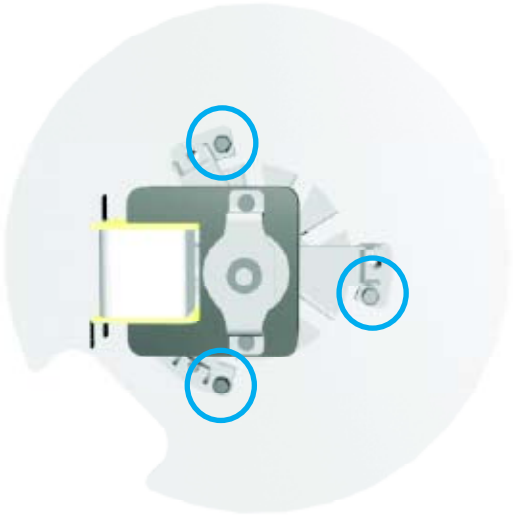
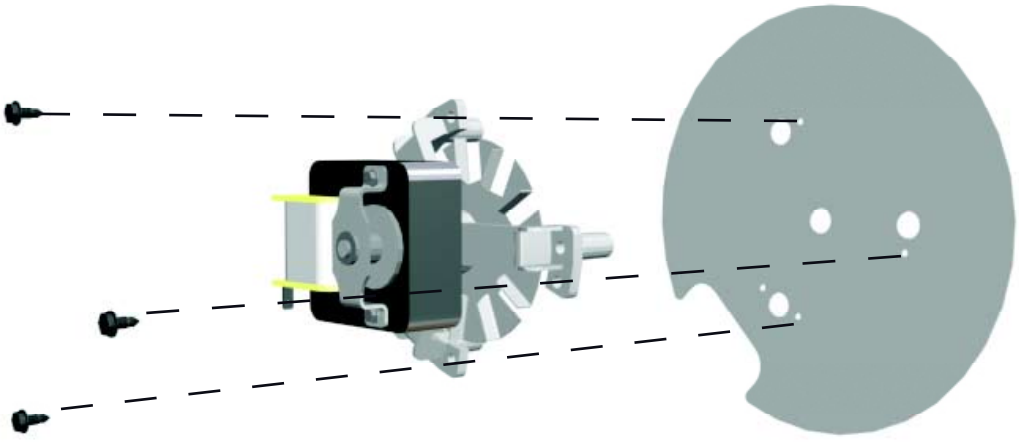


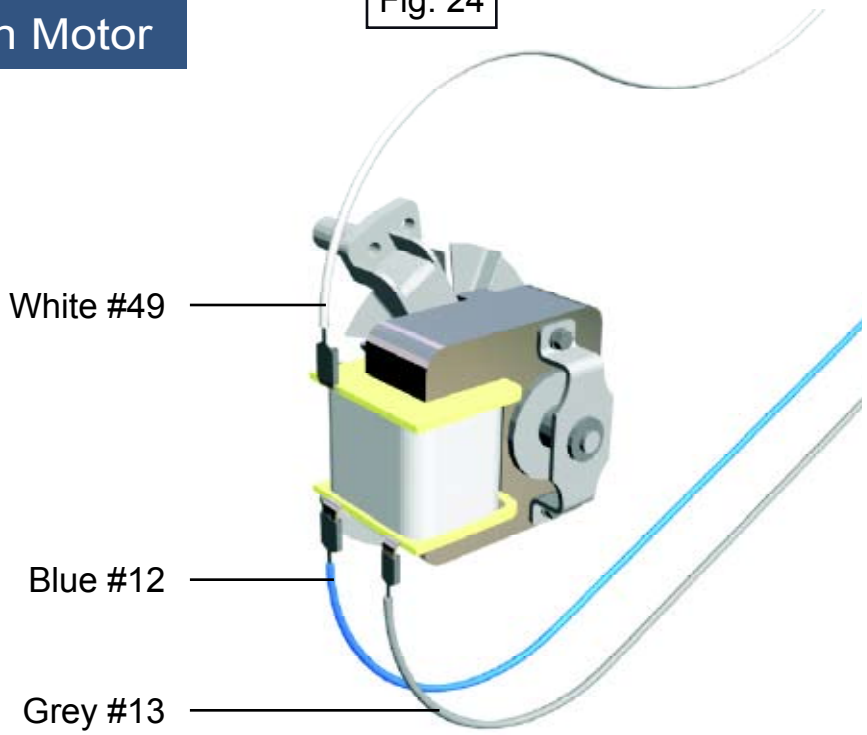
Fig. 23



Convection Motor Wiring

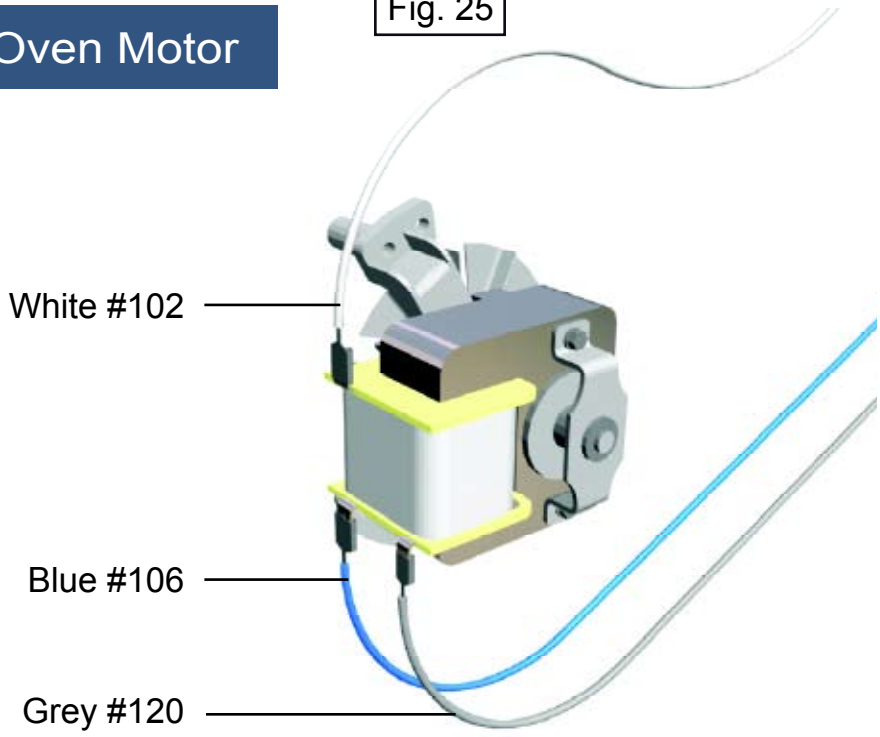
Top Oven Motor

Fig. 24



Bottom Oven Motor

Fig. 25



Removing Cooling Fan Motor

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

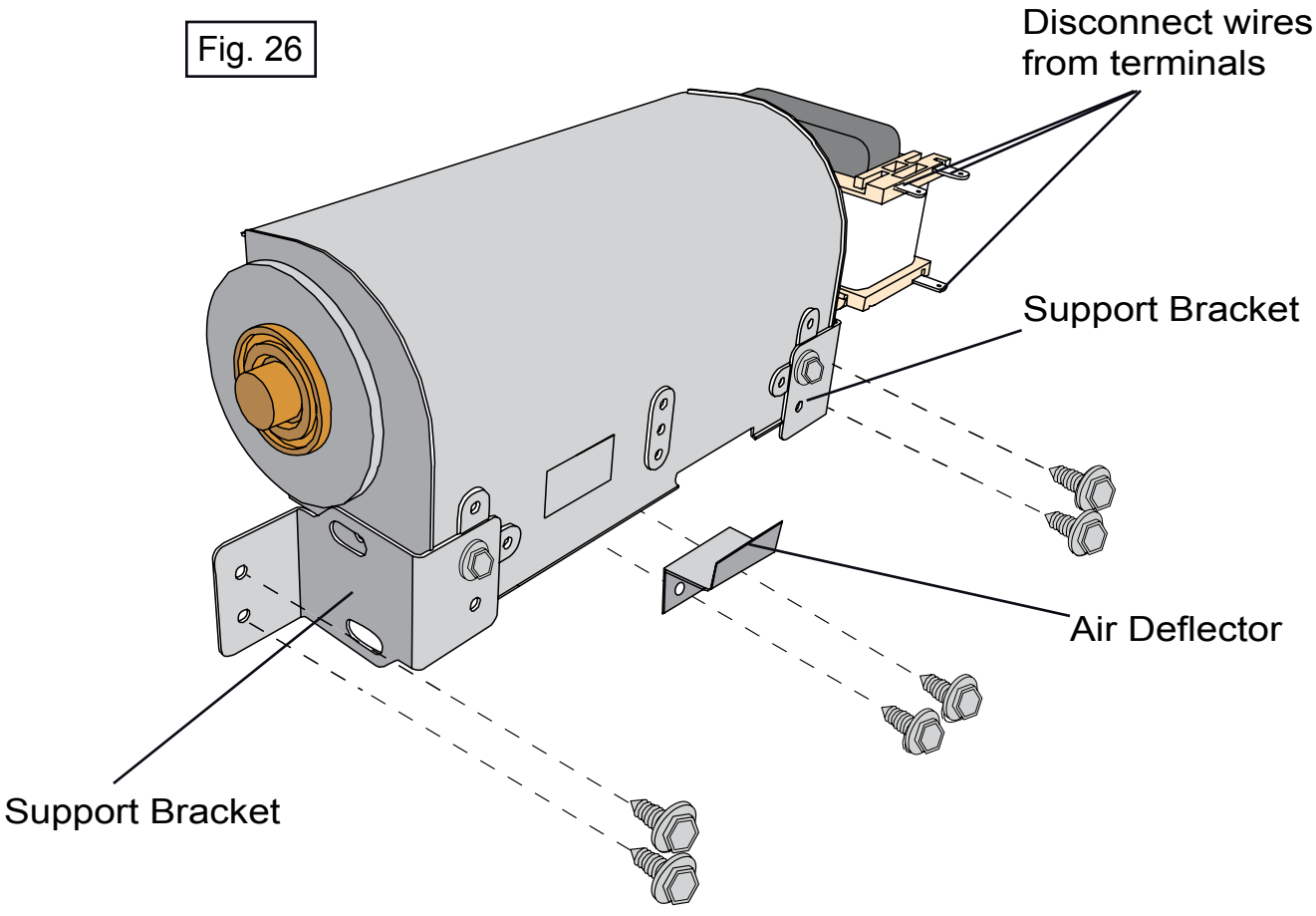
Removing Cooling Fan Motor

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven c avity and components are cool before proceeding.

1. Ensure electrical power to oven is off.
2. Disconnect wires from terminals on right hand side of cooling fan (Fig. 26).
3. Remove (2) screws from Air Deflector underneath blower motor, see (Fig. 26) Remove Air Deflector and set aside.
4. Support Cooling Fan, then remove (4) screws from each fan support brackets located on each side of Cooling Fan as shown in (Fig. 26).
5. Remove Cooling Fan from unit.

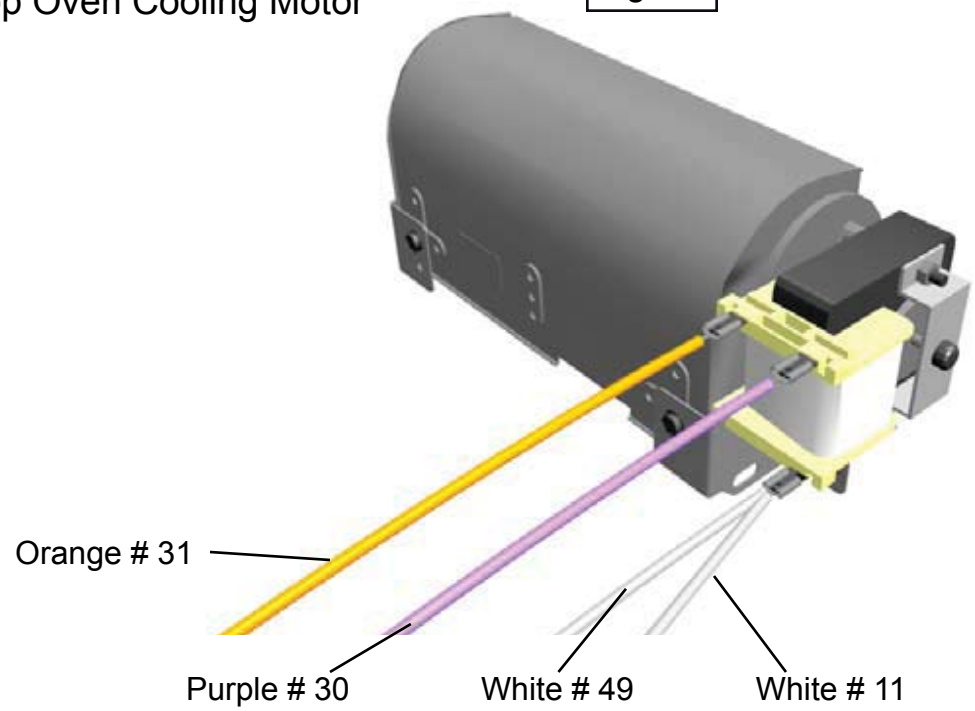
Fig. 26



Cooling Fan Wiring

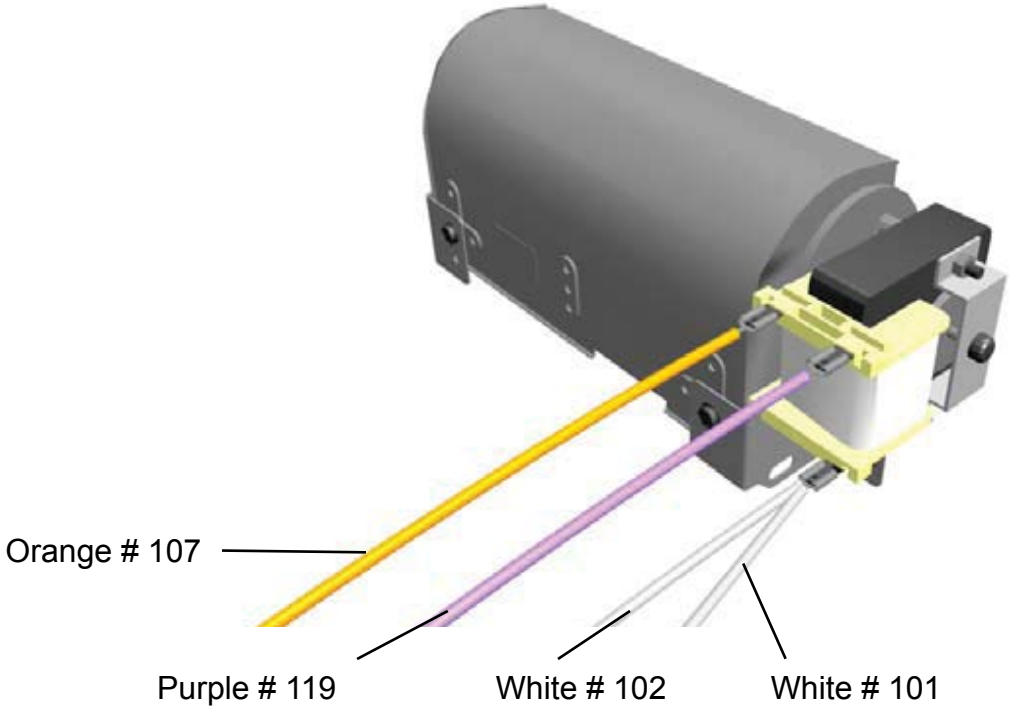
Top Oven Cooling Motor

Fig. 27

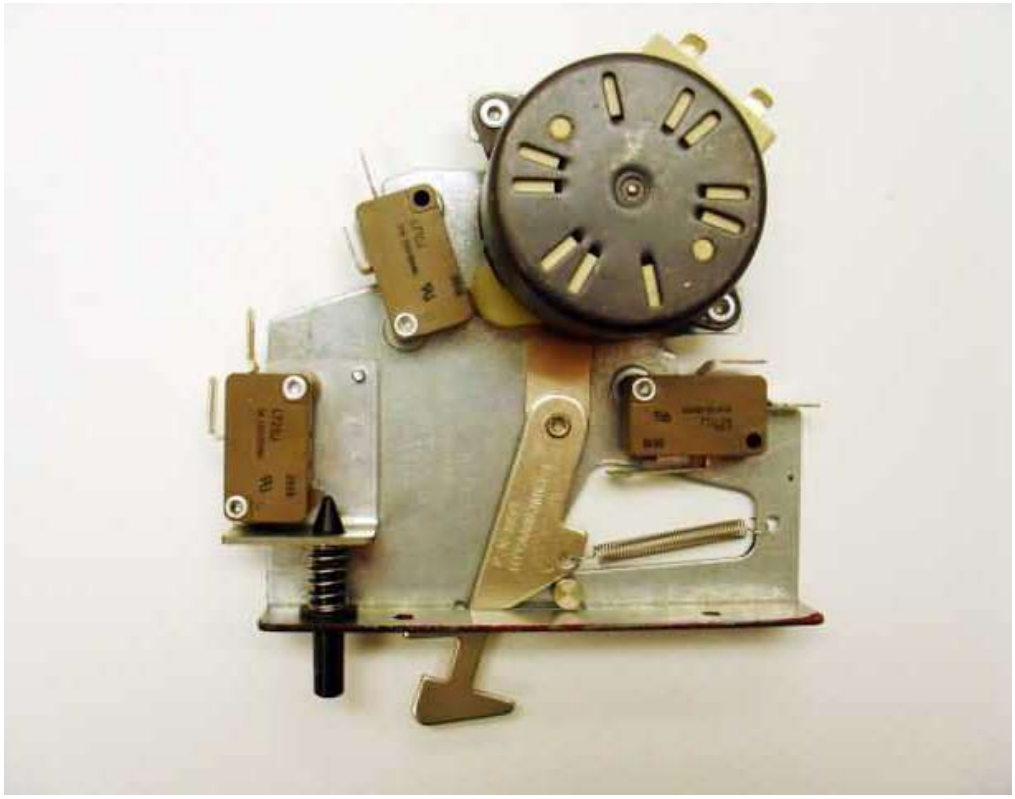


Bottom Oven Cooling Motor

Fig. 28



Removing Door Lock Motor



Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Vent Trim & Door Gasket

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove (4) screws from each vent trim as shown in (Fig. 28) and (Fig. 29).
2. Remove (1) screw from gasket retainer as shown in (Fig. 30).
3. Remove door gasket from front frame. Gently pull gasket at clip mounting points to release from front frame, see (Fig. 30). (**<u>NOTE</u>: Do not pull quickly, doing so could rip clips from gasket causing damage to part.)**

Fig. 28 Top vent trim removal

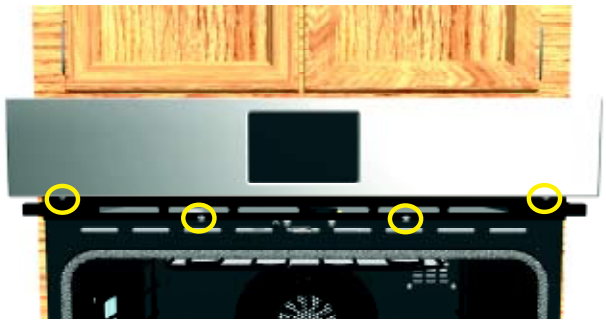


Fig. 29 Middle vent trim removal

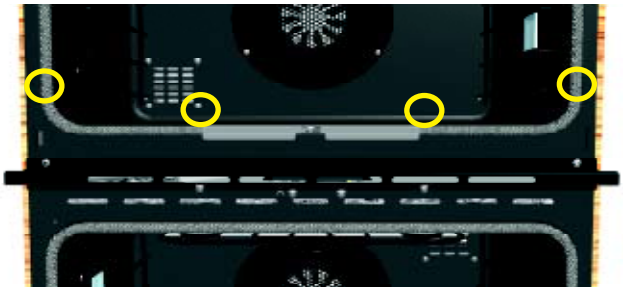
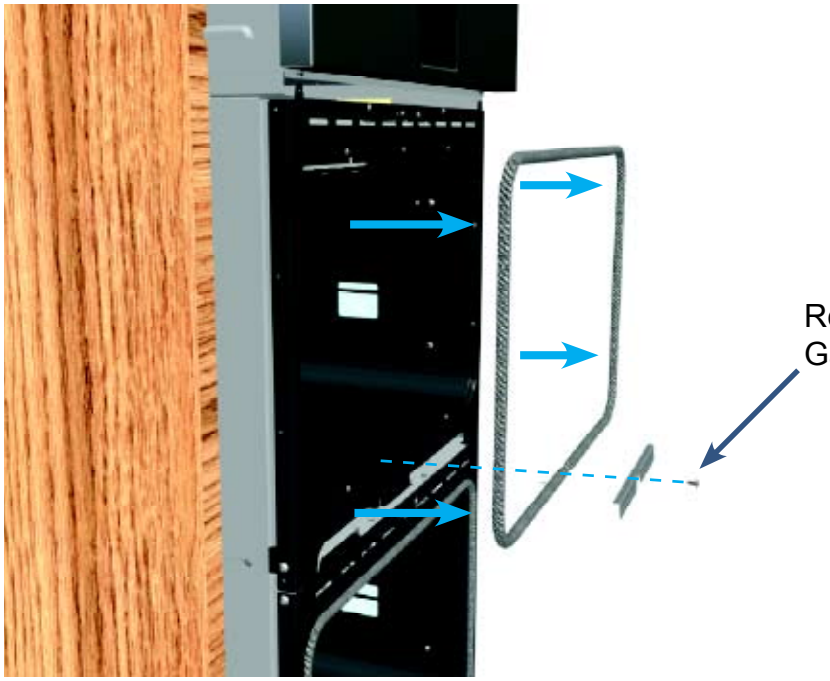


Fig. 30



Removing Front Frame (Top Oven)

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Porcelain may have sharp edges.

1. Remove (4) screws from each side of front frame as shown in (Fig. 31).
2. Remove (2) screws from top oven front frame at tabs as shown in (Fig. 32 A).
3. Remove (2) screws from bottom oven front frame as shown in (Fig. 32 B).
4. Remove (9) screws from front frame as shown in (Fig. 33).

Fig. 31

Fig. 32

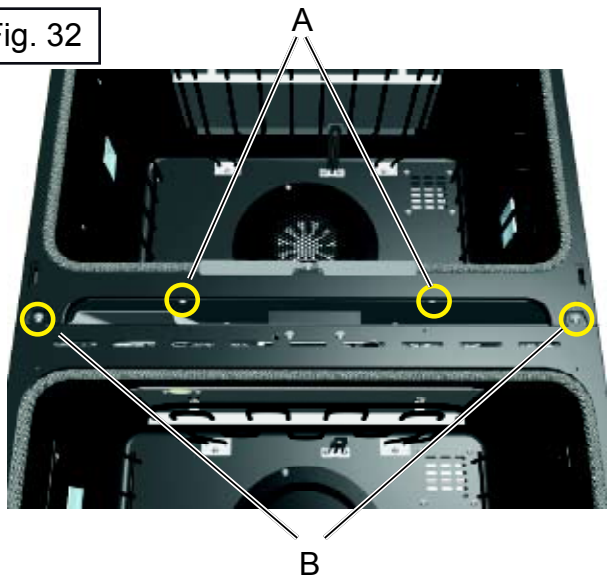
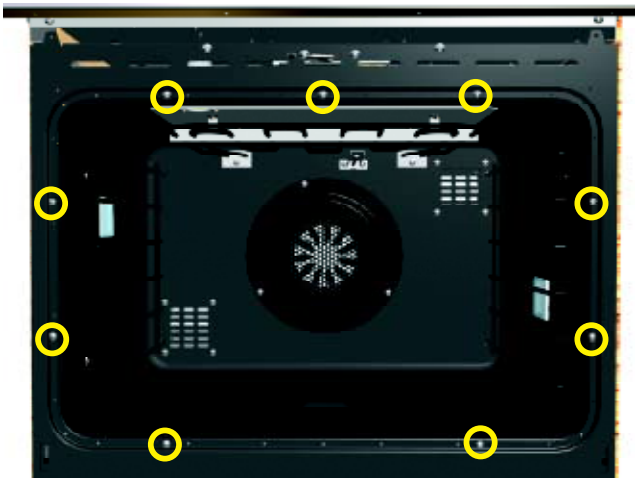


Fig. 33



Removing Front Frame (Top Oven)

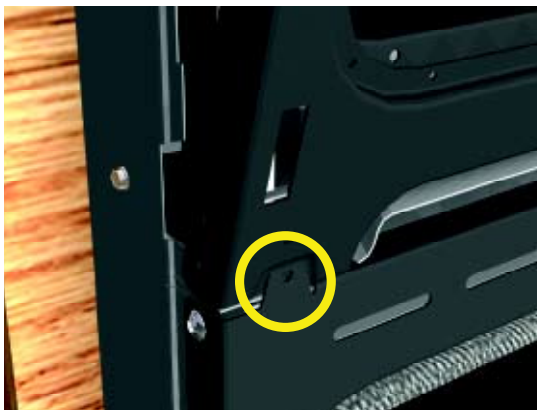
WARNING : Turn off electrical power to oven before servicing.

CAUTION : Porcelain may have sharp edges.

1. Grasp each side of top front frame and pull forward. Front frame should tilt outward at the top enough to access door lock motor. Bottom of front frame should remain behind bottom oven front frame tabs, see (Fig. 34). **<u>NOTE</u>: If front frame is pulled too far forward it is possible to chip the porcelain of the top and bottom front frame where they are joined, see (Fig. 35). Do not attempt to remove front frame from unit.**

Fig. 34

Fig. 35



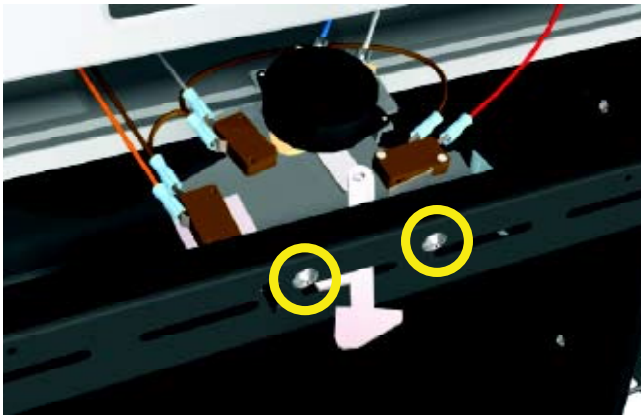
Removing Motor from Front Frame

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Porcelain may have sharp edges.

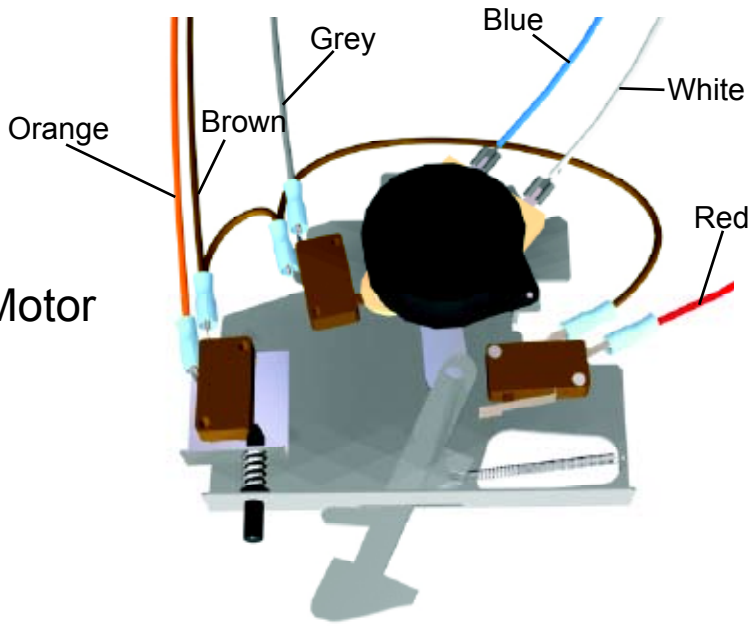
1. Disconnect all wires from door lock motor (Fig. 37).
2. Remove (2) screws from door lock motor as shown in (Fig. 36).
3. Remove door lock motor from front frame and install new door lock motor.

Fig. 36



Wire Color	Wire #	Connects To
Orange	23	Power Board
Brown	18	Power Board
Grey	21	Power Board
Blue	28	Power Board
White	29	Terminal Block
Red	22	Power Board

Fig. 37



Door Lock Motor

Removing Front Frame (Bottom Oven)

All steps to remove Bottom Oven Front Frame are the same as the Top oven in addition to steps 1 and 2 listed below.

1. Remove (2) screws from middle airflow cover to front frame shown in (Fig. 38).
2. Remove (4) screws from lower vent trim (Fig. 39).

Fig. 38

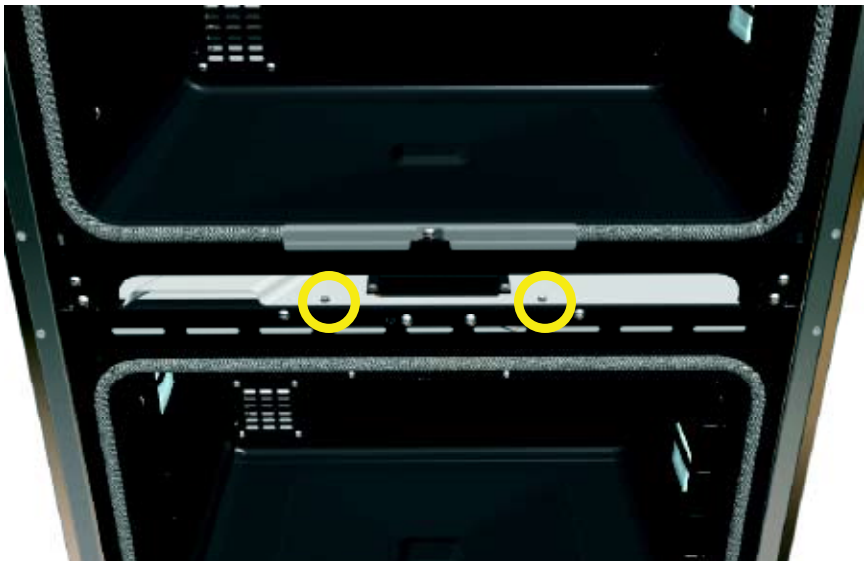
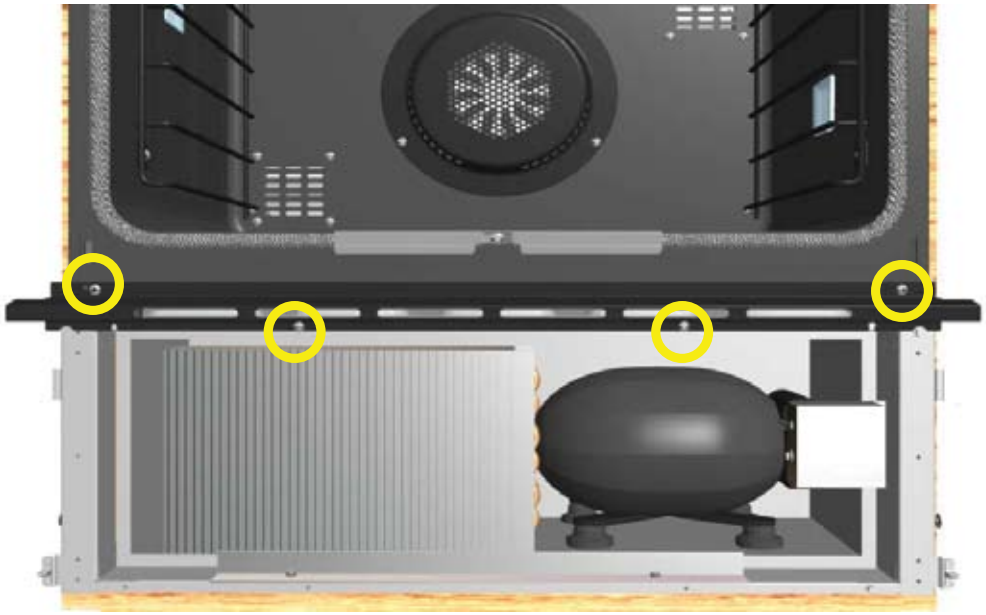


Fig. 39



Installing Front Frame

1. When reinstalling the front frame the bottom insulation retainer must be above front frame bottom flange as shown in (Fig. 40) and (Fig. 41).
2. All other installation is the same as the removal instructions reversed.

Fig. 40

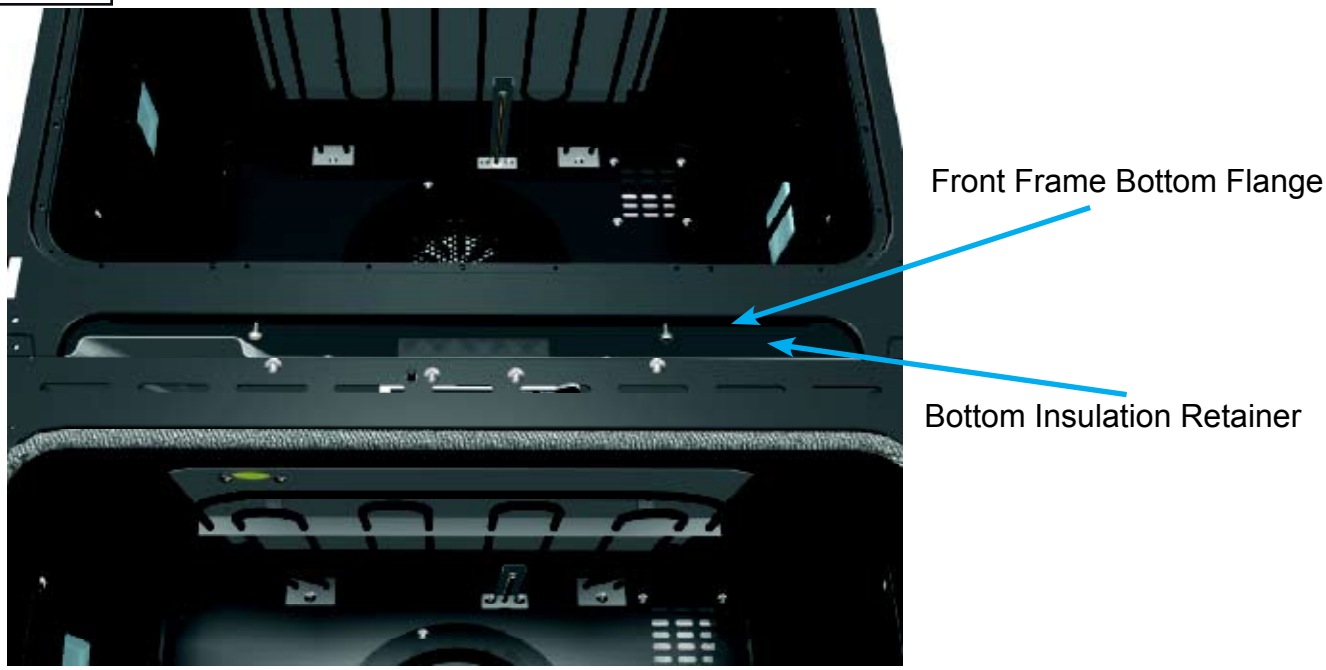
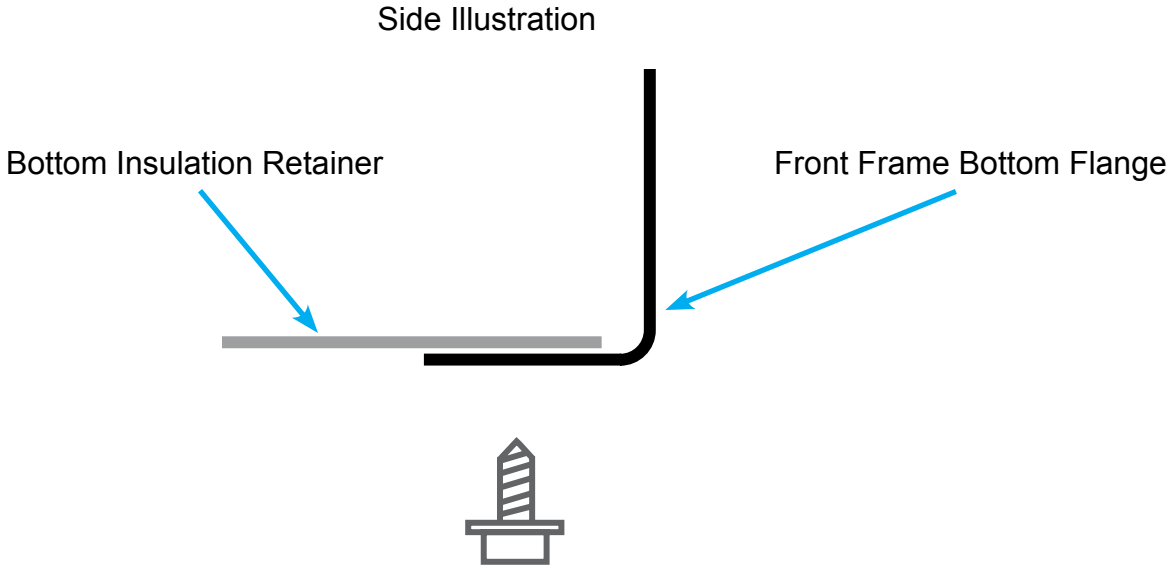


Fig. 41



Section 5
Refrigeration

Removing the Refrigeration System

Tools Required

- Phillips (4 way) screwdriver or bit
- 1/4” Nutdriver or socket
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing the Refrigeration System

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Ensure electrical power to oven is off.
2. *To simplify illustrations, insulation on refrigeration ducts are not shown. Carefully* peel back insulation around refrigeration duct transition boxes to reveal (16) screws. Do not to tear insulation.
3. Remove (16) screws from the refrigeration transition boxes as shown in (Fig. 2).

Fig. 1

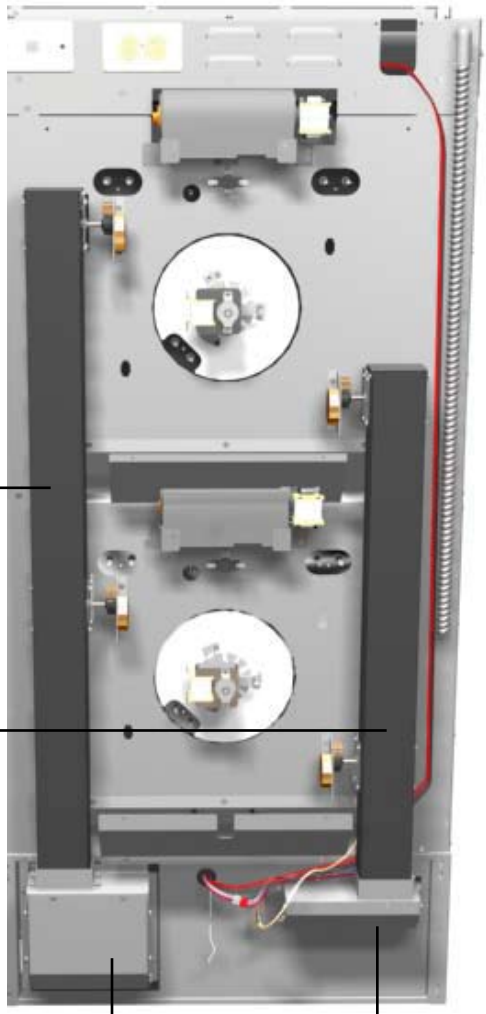
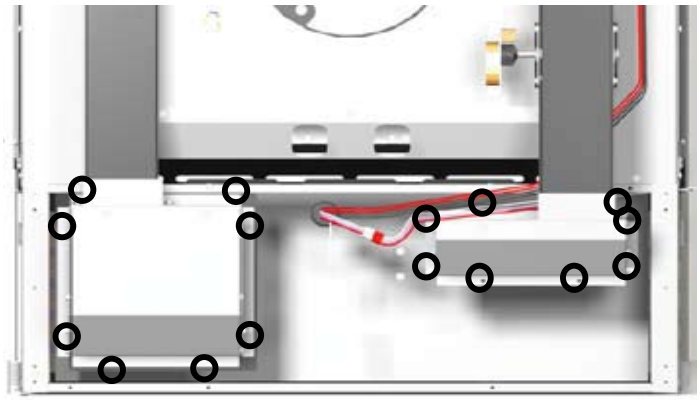


Fig. 2



Disconnecting the Reset Switch Wiring

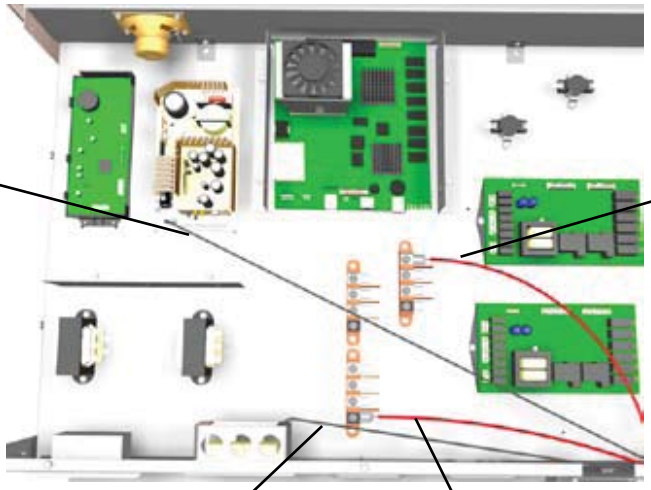
WARNING : Turn off electrical power to oven before servicing.

CAUTION : Always touch a metal structure to ground yourself before handling any electrical components

1. Ensure electrical power to oven is off.
2. (4) wires coming from the refrigeration system are for the reset switch located on front of the refrigeration unit. These (4) wires run all the way up the back of unit to the top of electronic enclosure. **These (4) wires must be disconnected as shown here. Do not cut or splice these wires. Doing so could be unsafe to you and the customer.**
3. Disconnect (4) wires from their locations shown in (Fig. 3).
4. Remove female connector from the power supply board connected by the black wire. The green wire is secured with a ground screw to power supply board. The white wire is connected to terminal block. For wiring info of the Power Supply, see pg. 31
5. Remove (4) wires from the main wiring harness which runs from the bottom and top ovens to the top of the unit.

Top Electrical Enclosure

Fig. 3


Black wire connects to power supply board
Red Wire connects to (L1) terminal block
Black wire connects to 120v outlet
Red wire connects to (L2) terminal block

Disconnecting Wiring at Rear of Unit

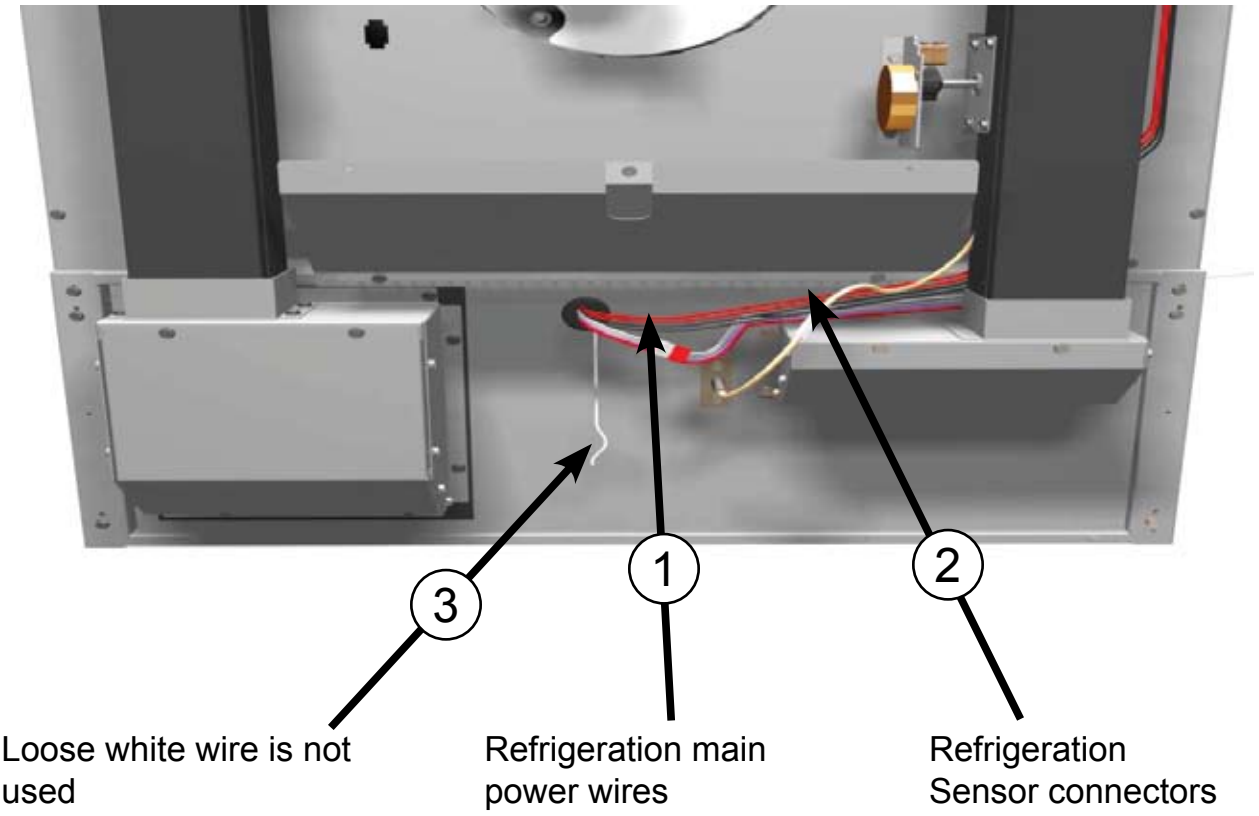
WARNING : Turn off electrical power to oven before servicing.

CAUTION : When disconnecting wires or wire connectors, do not pull on wire. Only pull from connector or terminal.

1. Ensure electrical power to oven is off.
2. Disconnect (4) wire male and female connectors, see (Fig. 4) 1.
3. Disconnect sensor male and female connectors, see (Fig. 4) 2.
4. Loose white wire is not used, see (Fig. 4) 3.

Fig. 4

Bottom Rear of Unit



Removing Refrigeration System from Base

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Refrigeration System is heavy. Use proper lifting techniques when moving system.

1. Remove Refrigeration Panel,
2. Remove (2) screws from front refrigeration bracket as shown in (Fig. 5), then remove bracket.
3. Pulling from the front of the refrigeration system, the unit will begin to side out.
4. Remove refrigeration system from unit and continue with installation of new system.

Fig. 5

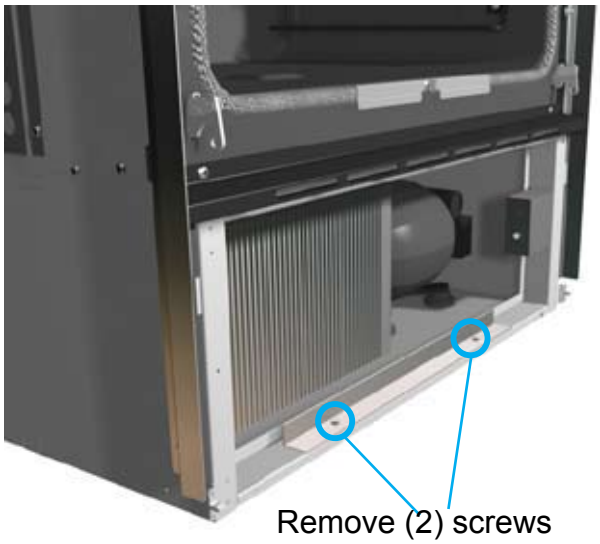
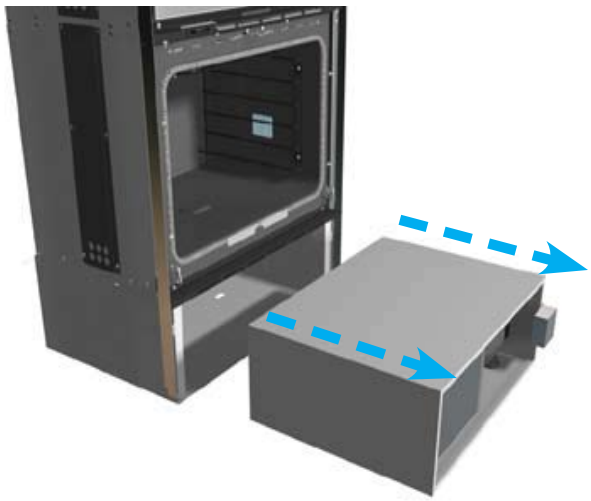


Fig. 6



Removing the Slide-in Refrigeration System

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Remove Refrigeration panel from front of unit. (Fig .7)
2. Remove (1) screw from wire connector box located at top of Refrigeration unit (Fig.8).
3. Remove (4) screws from bottom vent trim.Remove trim and set aside (Fig.9).
4. Remove (2) screws from refrigeration mounting bracket. Remove bracket and set aside (Fig.9).

Fig. 7

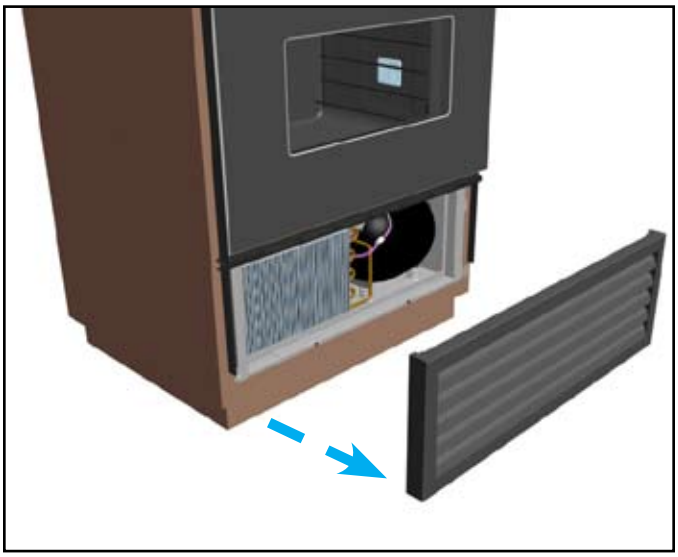


Fig. 8

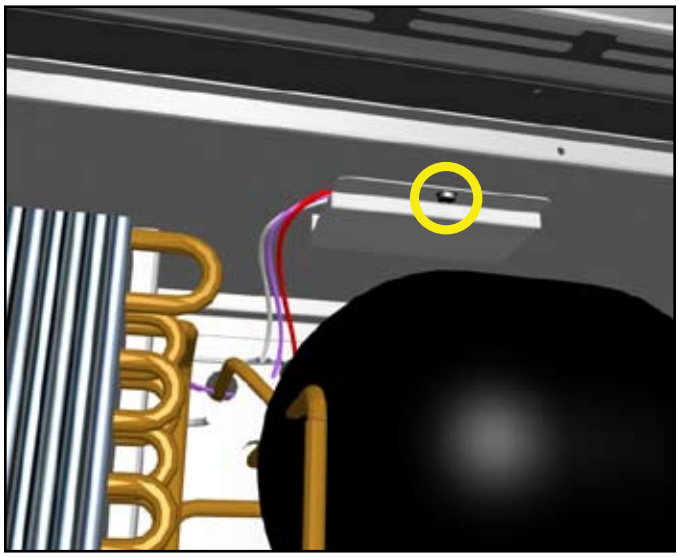
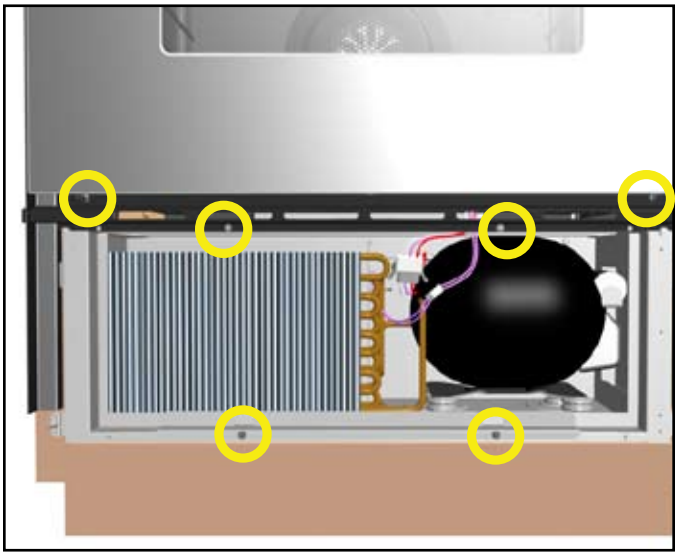


Fig. 9



Removing the Refrigeration System

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Sheet metal parts could have sharp edges and corners.

1. Disconnect both connectors in refrigeration unit (Fig.10). Push connectors through opening into the upper part of the base.
2. Pull refrigeration unit forward to remove from unit. **<u>NOTE</u>: Use caution when lifting refrigeration unit, unit is heavy.**

Fig. 10

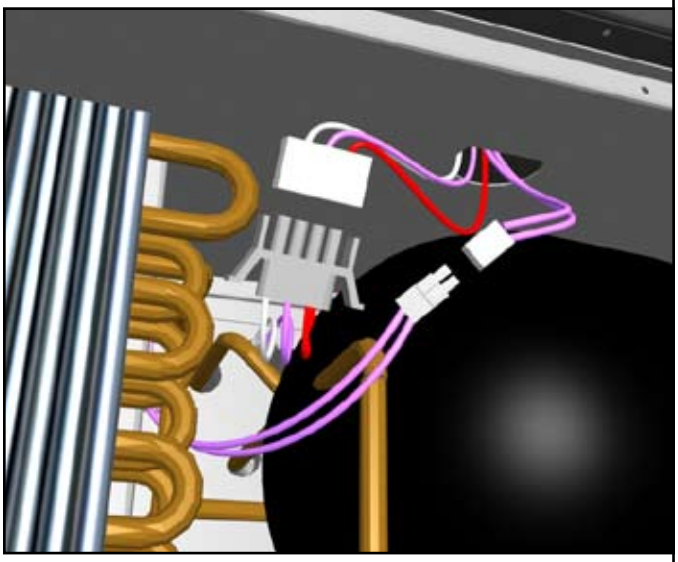
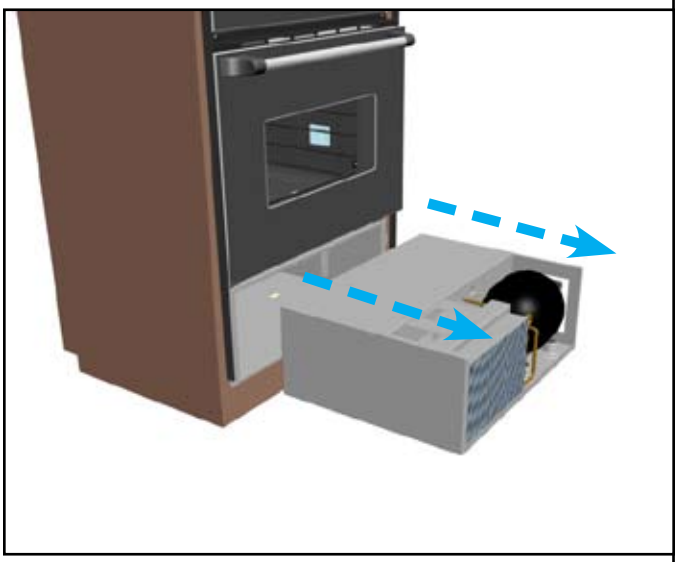


Fig. 11

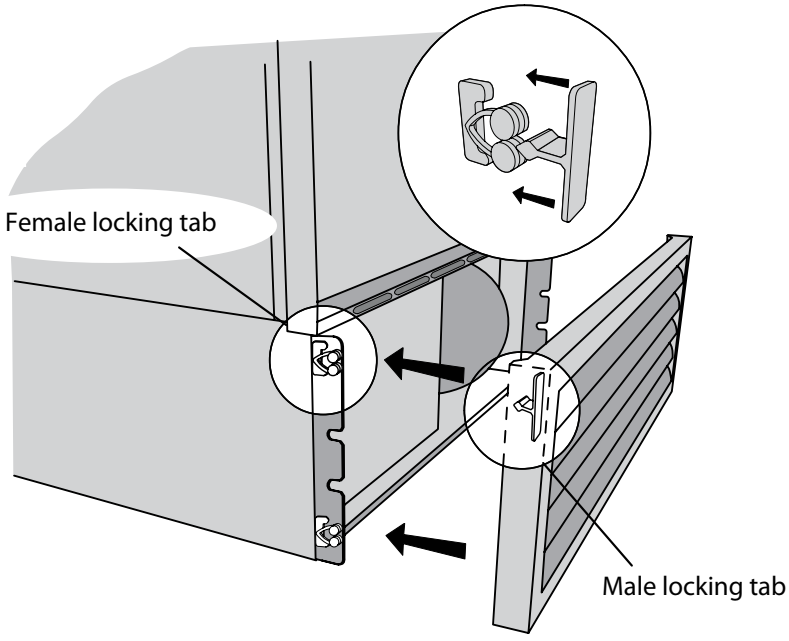


WARNING : Turn off electrical power to oven before servicing.

CAUTION : Refrigeration System is heavy. Use proper lifting techniques when moving system.

1. When installing new Refrigeration System take the same steps as the removal process only in reverse. Any other differences are listed below and should be followed to ensure proper installation of system.
2. Once the new system is in place and secured to unit, ensure gaskets around duct transition boxes are sealed.
3. Duct and transition box insulation must be positioned to their original location and sealed with Polyken® 360-17 FOILMASTER™ Sealant U.L. 723 approved tape, or equivalent. Standard foil tape should not be used.
4. Double-check all wire connections to ensure they are secured and routed properly. Avoid pinching or damaging wires.
5. When reinstalling rear covers, ensure there are no wires pinched between covers and unit.
6. Replace Refrigeration panel, see (Fig. 12).

Fig. 12



Section 6
Heating Elements

Removing Convection Element

Tools Required

- Phillips (4 way) screwdriver or bit
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Convection Element

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Remove (3) screws from Convection Cover as shown in (Fig. 1). Remove Cover from oven and set aside.
2. Remove (2) screws from Convection Element as show in (Fig. 2).
3. Pull element forward revealing wires.
4. Disconnect wires from terminals as shown in (Fig. 3). (**NOTE: Always pull from connectors, not the wires. Pulling from the wires can cause damage to wire and / or terminal.)**
5. Remove convection element from oven.

Fig. 1

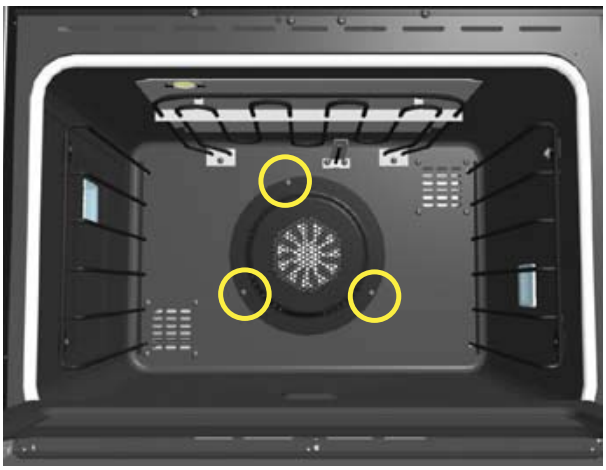


Fig. 2

Fig. 3

Removing Broil Element

Tools Required

- Phillips (4 way) screwdriver or bit
- Standard Pliers

- Kevlar gloves and safety glasses are recommended.

Removing Broil Element

WARNING : Turn off electrical power to oven before servicing.

CAUTION : Ensure oven cavity and components are cool before proceeding.

1. Remove (2) screws from Broil Element supports and (2) screws from rear support brackets, see (Fig. 4). **<u>NOTE</u>: Place free hand on Element to prevent from falling.**
2. Pull Element forward to reveal wires. **<u>NOTE</u>: Pulling quickly could cause wires to disconnect from terminals and fall behind unit.**
3. Tilt front of Element down and let it rest on the bottom of the oven cavity, see (Fig. 5).
4. Disconnect wires from terminals. (**<u>NOTE</u>: Always pull from connectors, not the wires. Pulling from the wires can cause damage to wire and terminal.)**
5. Remove Element from oven.

Fig. 4

Fig. 5

WARNING

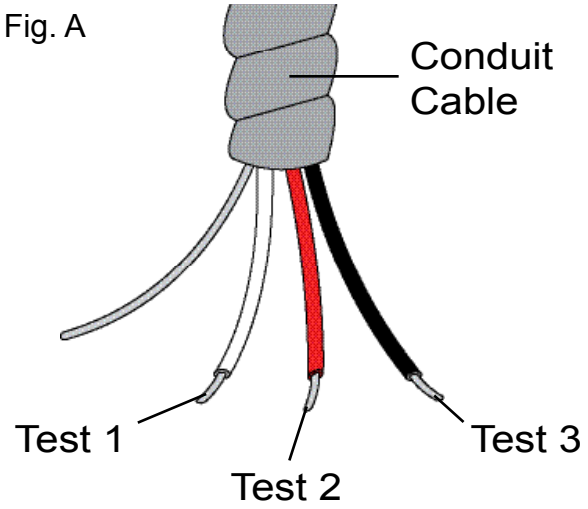
Once Service to oven is complete, but before applying power to the oven, do the following: Use a Hipot Tester to ensure the wire terminals are not loose or touching bare metal. Also ensure there were no wires pinched or crushed during repair.

When Hipot testing the oven, it must be completely assembled, with all covers and guards in their correct positions. The recommended Hipot settings are listed below:

- Voltage – 1.25 (1250 volts)
- Current – 10.00 (10 mill amps)
- Dwell – 1.0 (1 second)
- Ramp/Pulse – 0.1 (1 second)

NOTE: Test each wire individually. Connect Hipot lead to White wire (Neutral), connect another to chassis of oven and test. If test passes, then repeat test with the Red (L2), and Black (L1) wire. See (Fig. A).

Fig. A



If Oven passes Hipot test, proceed with functional test of oven. If covers or guards are removed at any time, oven must be Hipot tested once again to ensure safety, to you and the customer.